

# The Antiseptic

A Monthly Journal of Medicine & Surgery

Founded by the late Dr. U. RAMA RAU in 1904. Published on the 15th of every month

Editor : U. VASUDEVA RAU, M.B., B.S.

Editorial & Publishing Office : 323-24, Thambu Chetty St., Madras-1.

London : 24/27, High Holborn W.C. 1 }

Calcutta : 31, Beck Bagan Row }

Telegrams : "ANTISEPTIC"

Telephone : 2163

{ Bombay : 10, Homji Street

{ New Delhi : G.P.O. Box No. 677

Subscription Rs. 7-8-0.

Pages from 81 to 160

Foreign Rs. 10 a year.

Contents on Advt. page 2.

Single Copy Re. 1-0-0—in advance.

Index to Advertisers on page 4.

## ISOPRENALINE-BOOTS

For the treatment of Bronchial Asthma

Isoprenaline possesses the inhibitory action of Adrenaline, but is free from its excitant effect. It produces greater relaxation of smooth muscle and is fully effective by the oral route.

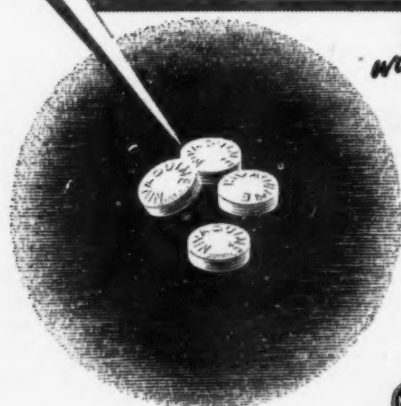


Supplied as a 1 per cent. solution for inhalation in bottles of 10 c. c. and as tablets of 0.2 G. for sublingual administration in bottles of 25 and 100.

Literature and further information from

BOOTS PURE DRUG CO. (INDIA) LTD., BOMBAY.

Single dose treatment



with 'NIVAQUINE'

CHLOROQUINE SULPHATE

for rapid relief of acute malaria with absence of side effects, in partially immune or malaria tolerant subjects.

'Nivaquine' is supplied in containers of 10 and 500 x 0.20 Gm. (each tablet contains the equivalent of 0.15 Gm. chloroquine base).



manufactured by: MAY & BAKER LTD

MAY & BAKER (INDIA) LTD. BOMBAY · CALCUTTA · MADRAS · NEW DELHI · LUCKNOW · GAUHATI



A source  
of strength  
for mother  
and  
child...

# Prenatal

CAPSULES  
WITH VITAMIN B<sub>12</sub>



PRENATAL Capsules contain in *one* capsule all the vitamins and minerals which are required to meet the heavy nutritional demands upon the maternal organism during the periods of pregnancy and lactation. This overcomes the disadvantage of taking several tablets or capsules; and the value of this important dietary supplement for expectant mothers, is further enhanced by the addition to its formula of liberal amounts of FOLVITE\* (folic acid) *Lederle*, vitamin B<sub>12</sub>, and iron.

Formula...

Each PRENATAL Capsule contains:

Vitamin A	2,000 U.S.P. units
Vitamin D	400 U.S.P. units
Thiamine (B <sub>1</sub> )	2mg.
Riboflavin (B <sub>2</sub> )	2mg.
Ascorbic Acid (C)	35mg.
Nicotinamide	7mg.
FOLVITE Folic Acid	1mg.
Vitamin B <sub>12</sub>	1 microgram
Calcium (in CaHPO <sub>4</sub> )	250mg.
Phosphorus (in CaHPO <sub>4</sub> )	190mg.
Iron (in exsiccated FeSO <sub>4</sub> )	6mg.
Manganese (in MnSO <sub>4</sub> )	0.12mg.

\* Trade Mark



LEDERLE LABORATORIES (INDIA) LTD.  
P.O.B. 1994, BOMBAY 1.

Look to



for leadership



In case of chronic inflammatory affections, especially in TB, the accumulation of sodium salt in the organism may sometimes have an unfavourable effect on the course of the illness, and it is therefore to be reduced as much as possible.

On the other hand, calcium possesses anti-inflammatory and anti-exudative properties; the measures which tend to increase the calcium blood level as well as favourably influences calcification play a very important role in TB therapy.

These considerations have lead to the change of the two forms of oral administration of

# Aminacyl

WANDER

## TO P.A.S. CALCIUM

**Aminacyl Dragées** 1 dragée contains **0.395 gm.** of calcium p-aminosalicylate corresponding to 0.3 gm. of the free acid.

Bottle of 250 dragées

Bottle of 1000 dragées

Tin of 5000 dragées

### Aminacyl Granulate

100 gm. of Granulate contains **85 gm.** of calcium p-aminosalicylate corresponding to 75 per cent of the free acid.

Package for 1 week

Package for 1 month

Hospital package: tin of 2000 gm.

122

**STOCKS ARE NOW AVAILABLE,**  
Sole Importers:

"WANDER" PHARMACEUTICAL DEPARTMENT  
**GRAHMS TRADING CO., (India) LTD.,**  
P. O. Box 98. P. O. Box 147. P. O. Box 1205.  
BOMBAY CALCUTTA. MADRAS.

# Contents.

## ORIGINAL ARTICLES:—

Facial Paralysis and its Treatment.— Lt. Col P. V. Karamchandani, M.B., F.R.C.P., I.M.S. (Retd.), Salisbury Park, Poona I	81
Acute Infections of the Fingers and Hand.—D. C. Banerjee, B.Sc., M.B., B.S., Formerly House Surgeon, General Hospital, Madras and Civil Hospital, Delhi, Popular Clinic, 66, La-Touche Road, Lucknow	89
The Tuberculin Test—its Nature Specificity and Significance.—K. Venkata Raman, M.B., B.S., F.D.D., (Madras), and P. D. Kannivelu, M.B.B.S., F.D.D. (Madras), Assistant Surgeons, Government Tuberculosis Institute, Egmore, Madras 8	99
Industrial Dermatitis. D. P. Jayaram, B.Sc., M.B., B.S., Dermatologist, Sri Krishnarajendra Hospital, Mysore	106
A Survey of Eye Troubles in School Children at Lucknow.—V. N. Khanna, D.O., D.O.M.S., D.T.M., I.M.S., Reader in Ophthalmology, K. G. Medical College, Lucknow, U. P.	110
Hysterical Manifestations.—Miss. G. Bhattacharyya, B.Sc., M.B., B.S., Women and Children's Hospital, Madras and S. Sen, B.Sc. M.B. (Cal.), M.B.C.P. (Lond.), F.R.F.P. & S.G., D.T.M. & H. (Lond.), Professor of Clinical Medicine, National Medical College, Calcutta	112
Pathogenesis and Treatment of Asthma. —Deen Dayal Srivastava, M.B., B.S., Asst. Surgeon and Resident Medical Officer, M. R. Hospital, Retlam (Madhya Bharat)	118
Observations on Rheumatic Diseases.— A. V. S. Sarma, M.B., B.S., D.O.H. (Lond.), F.D.S. (Lond.), Honorary Physician, Government Royapettah Hospital, Madras	124
CASES AND COMMENTS:— Observations on Twins—A Resume of Clinical Experiences.—A. V. S. Sarma, M.B., B.S., D.O.H. (Lond.), F.D.S. (Lond.), Honorary Physician, Government Royapettah Hospital, Madras 14.	129
The Value of Vitamin C in the Treat- ment of Whooping Cough.—D. G. Ramaswamy, L.I.M., Registered Medi- cal Practitioner, Dharmapuri, Salem District	130
Report on a Case of Encephalitis Lethargica.—T. B. Kasudia, F.O.P.S., M.B., B.S., Kenya. (Br. E. Africa)	132
An Interesting Case of Union of Practi- cally Completely Severed Limb.— G. S. Baxi, L.M.P., M.P. (retired), A.M.O., Private Medical Practitioner, Malkapur Dist. Buldana (Berar)	136
Three Cases of Amœbic Dysentery Treated with Aureomycin.—B. S. Soni, M.B., B.S. (Bom.), Devgad Baria, Bombay State	137

## EDITORIALS:—

The Central Council of Health (Inaugurated on 29th January '53)	139
Tenth Tuberculosis Workers' Con- ference, Mysore	141
The Fight Against Cancer	144

## GLEANINGS from MEDICAL PRESS:—

Medicine and Therapeutics	
ACTH and cortisone in treatment of complications of leprosy	98
Corticotropin therapy in children	105
Toxicity and skin effects of compounds used in the rubber and plastic indus- tries	109
Dust causes lung changes in graphite workers	109
Oral penicillin	117
Asthma and cardiac dyspnoea—a differ- ential diagnosis	123
Night cramps and intermittent claudica- tion	123
Duration of B.C.G. allergy	128
Anaphylactic shock following intravenous administration of vitamin B complex	131
Recent advances in the treatment of bronchial asthma	135
Hypertension in children	138
Pleurisy	146
Condition of the heart following beri-beri and malnutrition	147
Fluid retentions of normal and toxæmic pregnancies treated with a cation exchange resin	147
Chemotherapy of pulmonary tuberculosis	148
Treatment of pulmonary tuberculosis with isoniazid	148
Hazards of butazolidine therapy	150
Psychiatry and Psychotherapy	
Psychosomatic disorders of childhood and adolescence	150
The effect of sex hormones in oligophrenia	151
Enquiries into attempted suicide	151
The treatment of mental defectives with glutamic acid	151
Surgery	
Melanoma and pigmented naevus	152
The nail problem	152
Anæsthesia for neuro-surgery	152
Obstetrics and Gynecology	
The emergency obstetrical service	153
Sexual functions of the pubococcygeus muscle—A new concept	153
Sudden death from pituitrin shock	155
Book Reviews	156
Books Received	158
News and Notes	158
Notice	160
Acknowledgements	160



Prescribe

**PAVACOL—WB**

the ethical Cough Syrup

(not advertised in the lay press)

This combination of Papaverine hydrochloride and Codeine Phosphate relieves spasm of the bronchi and diminishes the local irritations associated with the condition. Balsam of tolu and glycerine complete, with mild expectorants, a most acceptable syrup mixture.

Ask the Sole Importers for the "Moonlight Sonata" leaflet:

**WARD, BLENKINSOP & CO. (INDIA) LTD.,**

1/110, Haines Road, Worli,

BOMBAY-18.



**3 Reasons**  
WHY DOCTORS USE



- ★ SURGICOM dressings are manufactured under the most aseptic conditions.
- ★ SURGICOM dressings are guaranteed sterile when packed.
- ★ SURGICOM dressings are known for their superior absorbency.

MANUFACTURED BY  
**THE RAMARAJU SURGICAL COTTON MILLS LTD.**  
RAJAPALAYAM.

SOLE SELLING AGENTS:

**PARRY & CO LIMITED**  
MADRAS. BOMBAY. CALCUTTA. NEW DELHI

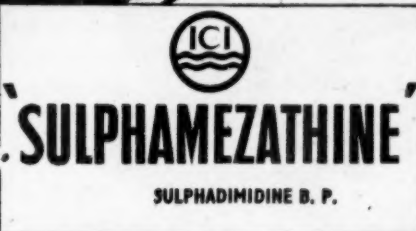


# Index to Advertisers

	PAGE		PAGE
Abco's Pharmaceutical Works (India) Ltd.	64	Industrial & Engineering App. Co. Ltd.	63
Alarsin Pharmaceuticals (India)	14	Jaswant Singh & Co.	62
Alombi Chemical Works Co., Ltd.	36	Javeri Bros.	7
Allen & Hanbury Ltd.	34	John Wyeth & Brother Ltd.	48, 72
Alliance Trading Corporation	62	Juggat Singh's Son & Bros.	56, 60
Amarchand Sobachand	65	Kamla Pharmacy	62
Angier Chemical Co.	19	Kothari Book Depot, The	7
Anglo-Thai Corporation Ltd.	20	Lederle Labs. (India) Ltd. <i>Inside of Front Cover</i>	
Antiseptic	70	Mandoss Drugs Ltd.	65
Aseptic Co.	65	Martin H. Smith Company	25
Associated Drug Co. Ltd.	17	May & Baker (India) Ltd. <i>Front Cover</i>	39
Bengal Chemical	<i>Inside of Back Cover</i>	Merck (North America) Inc.	35, 38
Bengal Immunity Co.	46	Model Pharmacy	63
Biddle, Sawyer & Co. (India) Ltd.	57	Morison, Son & Jones (India) Ltd.	22
Binod Mills Co. Ltd., The	10	Mukerji & Banerjee Surgical Ltd.,	61
Birla Laboratories	23	Nath & Co.	16
Boots Pure Drug Co. (India) Ltd.	<i>Front Cover &amp;</i>	Neo-Pharma Ltd.	<i>Insertion P.</i>
	44	New Scientific Mart	10
Brahmachari Research Institute, The	57	Organon Laboratories Ltd.	13
Brand & Co. Ltd.	29	Oriental Research & Chemical Lab. Ltd.	58, 59
Brannan & Sons Ltd. S.	24	Parke, Davis & Co. <i>Outside of Back Cover</i>	
British Drug Houses (India) Ltd.	21, 43	Parry & Co.	3
Calcutta Chemical Co., Ltd.	17, 24	Pfizer	49
Calcutta Metallic Co.	10	Phillips Electrical Co. (India) Ltd.	15, 45
Capco Ltd.	74, 75	Phoenix Drug House Ltd.	22
Chemapol Ltd.	73	Pixie Products	65
Chowgule & Co.	68	Popular Book Depot, The	6
Ciba Pharma Ltd.	52	Pravin Laboratory	61
Cileg-Hind Limited	41	Praxen & Co., Ltd.	64
Cipla Laboratories	47	Primco Limited	26
Coates & Cooper Ltd.	27	Rajnikant & Bros.	77
Continental Pram House	11	Ranbaxy & Co.	76
Crookes Laboratories Ltd.	78	Ross & Co., J.	10
Current Technical Literature Co. Ltd.	11	Sandoz Ltd.	<i>Insertion P.</i>
Das Gupta & Co.	11	Scientific Publication Concern	6
Dhootapapeshwar Industries Ltd.	11	Shah & Co., D.	10
Diamelin Research Laboratory	27	Shree Durga Surgical Suppliers	62
Diagon Chemical Works (Research) Ltd.	64	Smith & Nephew Ltd., T. J.	8
Eastern Surgical Company	10	Smith Stanistreet & Co., Ltd.	55
East Asiatic Co. (India) Ltd. <i>insertion Page</i>	8	Sri Krishnan Bros.	62
East India Pharma. Works Ltd.	43	Standard Pharmaceutical Works Ltd.	58
Eli Lilly & Co.	54	Stadmed Ltd.	18
Ezra Bros.	69	Streamline Stores	62
Fisheries Tech. Laboratory	53	Suren & Co., Ltd., W.T.	51
Fletcher, Fletcher & Co. Ltd.	20	Surge & Co.	10
G.D.A. Chemicals Ltd.	67	Tablets Limited	15
General Electric Co.	40	Tropical Chemical Works	63
Glaxo Laboratories Ltd.	66, 71	Union Drug Co., Ltd.	56
Godrej Soaps Ltd.	9	Unique Trading Corporation	18
Gordhandas Desai & Co.	60	Volkart Bros.	30
Grahams Trading Co. (Ovaltine)	32	Wander Pharmaceutical Department	1, 37
Hanovia Ltd.	12	Ward, Blenkinsop & Co. Ltd.	3
Health	62	Winarnis	23
Himalaya Drug Co.	63	Zandu Pharmaceutical Works Ltd.	25
Hind Chemicals Ltd.	55, 59	Zone Chemical Co.	26
Horlicks	21		
Howards & Sons Ltd.	50		
Imperial Chemical Industries (India) Ltd.	5, 28		
Imperial Surgical Co.	6		
India Machinery Co. Ltd.	14		
Indian Chemical & Therapeutical Works Ltd.	46		
Indian Schering Limited	31		
Indoco Remedies Ltd.	64		
Indo-Pharma Pharmaceutical Works	19		



*safe for all ages..*



'Sulphamezathine' has a wide range of antibacterial action, and can be used wherever a sulphonamide is indicated.

Toxicity is exceptionally low, and nausea, vomiting, renal complications and other common reactions are rarely encountered. 'Sulphamezathine' is considered by many to be the drug of choice in all age groups from the very young to the very old.

Available in the form of tablets (0.5 gm.); oral suspension; lozenges; powder; and as the sodium salt in sterile solution for parenteral administration.

IMPERIAL CHEMICAL INDUSTRIES (INDIA) LIMITED

Calcutta    Bombay    Madras    Cochin    New Delhi    Kanpur





# MICROSCOPE

Rs. 920/-



New, improved stand with all adjustments on brass slides. Fitted with graduated mechanical stage.

Achromatic objectives:	Huygenian Eyepieces paired
16 mm = 10 x / 0.30 N.A.	6x, 10x
4 mm = 45 x 0.85 N.A.	The whole range of optical
Oil Immersion	equipment is offered in a
1.8 mm = 100 x / 1.30 N.A.	special list.
	Triple Nosepiece
	revolving, dustproof

Sole Selling Agents in India

**THE IMPERIAL SURGICAL CO.**

361, HORNBY ROAD, BOMBAY

ALSO AT LUCKNOW & PATNA

## Some Recent Medical Publications

- Beaumont Medicine—Essentials for Students and Practitioners, 1953** 37 6 sh.  
**Birch—Emergencies in Medical Practice, 1952** 32-6 sh.  
**Cruikshank—Pocket Prescriber, 1952** 5sh.  
**First Addenda to the British Pharmacopoeia, 1951** 17-6 sh.  
**Martindale—Extra Pharmacopoeia 1952, 23rd Edition, Vol. I** 65 sh.  
**Pharmaceutical Press—Antibiotics Survey of the Properties & Uses '52** 25 sh.  
**Supplement to the British Pharmaceutical Codex, 1952** 25 sh.  
**Beckman—Pharmacology in Clinical Practice, 1952** \$ 12.50  
**Graybbiel & White—Electrocardiography in Practice, 1952** \$ 10.00  
**1952—Year Book of General Surgery** \$ 5.50  
*Year Books in all other subjects also available*  
**Arruga—Ocular Surgery, 1952** \$ 36.00  
**Wheeler & Jacks—Handbook of Medicine, 1950** 20 sh.  
**Mujumdar—Bedside Medicine, 1949** with recent Therapeutic Advances Rs. 22/-  
**Lull—Clinical Obstetrics, '51-'52** \$ 10.00

Our catalogue is now ready.

**The Popular Book Depot. (Regd.)**

Lamington Road, BOMBAY-7.

By RAI Dr. A. R. MAJUMDAR BARADUR, Prof. of Clinical Medicine, Medical College, Calcutta, Rid.

### 1. BED-SIDE MEDICINE

Eighth Edition, Demy 1,330 pages, 600 diagrams with Recent Advances, 1951-52.

A comprehensive text-book of Medicine, Clinical and Systematic, containing (a) latest methods of case examination, clinical, instrumental and laboratory, simple and specialised and (b) full consideration of Diseases, system by system with etiology, pathology, clinical picture, diagnosis, prognosis and up-to-date treatment.

This is the most comprehensive, authoritative, profusely illustrated and largely read treatises of all Indian Diseases.

Price: Rs. 22-0, postage Re. 1.

### 2. MODERN PHARMACOLOGY AND THERAPEUTIC GUIDE

Ninth Ed., Dec. '51, Demy 800 pages, Price, Rs. 13/- plus 1/4/- as postage.

This is according to B.P. 1948 and Addendum '51 and Ind. Pharm. List '46, containing up-to-date Pharmacology and Therapeutics exemplified by 500 chosen prescriptions and over 700 extr. pharm. preparations, many introduced in 1950-'51 and adopted in practice, these being indexed under 210 diseases of daily practice. It has Indian Food recipes and Electrotherapy.

Concise Encyclopaedia of latest Drug Informations.

**SCIENTIFIC PUBLICATION CONCERN,**

9, Wellington Square, CALCUTTA-13.  
and Nayaajama Pathighar Mymensingh, East Pak.

## Kothari's Selection of Helpful Medical Books

Beaumont & Dodds—Recent Advances in Medicine: Clinical Laboratory Therapeutics, 13th Ed. 1952	Rs. 17/4-
Chamberlain—Textbook of Medicine, NEW, 1951	Rs. 31/4-
Das—Clinical Methods in Surgery with Differential Diagnosis, New (3rd) Ed. 1952	Rs. 25/-
Forbes & Mann—Clinical Examination of Patients, 1950	Rs. 12/8-
Hughes—Pediatrics in General Practice, New, 1952	Rs. 63/-
McDonald & Chusid—Correlative Neuroanatomy and Functional Neurology, New (6th) Edition, 1952	Rs. 18/-
Physician's Handbook—Revised by Four Eminent Physicians, New (7th) Ed. '52	Rs. 11/4-
Harris—Vitamins: A Digest of Current Knowledge, New 1951	Rs. 9/6-
Manohar—Textbook of Parasitology, fully illustrated, New 1952	Rs. 15/-
Wright—Contraceptive Technique: A Handbook for Medical Practitioners '51	Rs. 3/12-
Year Book of Drug Therapy, 1951	Rs. 20/-

We are glad to announce that we have been appointed **SOLE DISTRIBUTORS** for the following F. A. Davis Publications for India, Pakistan, Burma and Ceylon:

**Piersol—Cyclopedia of Medicine, Surgery and Specialties** complete in 14 large Royal Octavo Loose-leaf volumes and separate Desk Index—constantly kept up-to-date by means of NEW REVISION Pages, Details of this Great work will be sent on application.

**Taber—Cyclopedic Medical Dictionary**: by O. W. Taber, with the assistance of 14 Associates New (6th) Ed., 1953 due in two months, Thumb Index Ed. Rs. 21/-

**Register your order and secure your copy immediately.**

## THE KOTHARI BOOK DEPOT,

(Established 1935)

Exclusive House for Medical Books

'Phone: 60805.

**PAREL, BOMBAY-12.**

'Gram: "KOBOOK"

## PLEASE REGISTER YOUR NAME FOR MONTHLY PRICELIST

FREE OFFER: Box and Packing Free for Orders of Rs. 100/-

Serepto 1gm Pfizer	2-4	Paludrine 3 gm Strip 100	5-8	15cc 3-1; * 30cc 5-9; 4 oz 3-8
" Merck	1-15	Resochin 16 1-12;	"	14-0 Enteroquinol 100
Penicillin G Cryst. Sod.		Nivaquine 10 M&B	1-10	Herin 100mg x 10cc
Lac 1 2 5 10		M & B Sulphanilamide	500 6-6	Glaxo Food 1 lb
Pfizer 0-12 1-0 1-12 3-0		" Diazine	41-10	Lederle Folvite 10cc
Glaxo — 0-11-6 1-4 2-3		" Triad	100 8-8	N.A.B. 15 0-11; 30 0-12
Govt. — 0-11 1-3-3 2-2		M & B 693	500 41-10	Redoxon tabs 20 1-8; 100 6-4
Squibb 0-11-6 0-15 1-8 2-12		" 760	500 28-0	" 6x2cc 4-14; 3x5cc 4-6
Seclapan		Eng Sulphaguini	"	11-0 Saridon 10 1-7; 250 25-8
Pronapan		" Diazine	"	38-8 Sandoz Calcium 10%
Strepto with Procin		Squibb " Thiazole	100 4-6	5x10cc 5-2; 10x5cc 8-10
Squibb 3-2; Pfizer 4-2		Cibazol 100 5-14;	250 13-12	Sandoz Calcium c Vit B
Quinine Sulph Japan	34-0	Isonicotinic Acid Hydrazide	100	5x10cc 8-4; 10x5cc 10-10
" " ox. 2-8		Glaxo 4-12;	Eng 3-4	Atophan 20 3-3; amps 5-4
Quinine amps 100x10grx2cc		Dumex 6-6;	Squibb 7-4	Cylotropin IV or IM
Ind. 16 8; B.D.H. 22-0		P.A.S. Italy 100 gms	3-13	TCF Vit B Comp 16cc
Quinine amps 100x5grx1cc		100 tabs	3-9	All Glass Syringes
Ind. 11-0; B.D.H. 11-14		P.A.C. 75 5-5;	250 14-12	2 5 10 20
Quinine amps 12x10grx2cc		Macrablin 50 Mic x5 cc	3-12	Beacon 0-12 1-0 1-4 2-12
Ind. 2-10; Eng. 3-10		W. L. Ext. T C F 10cc	3-1	Record Ger 3-6 4-12 6-10 9-0
Quinine amps 12x5grx1cc		Emetine B.I. 12x1gr	5-12	Three Arrow 4-10 6-0 7-6 9-8
Ind. 1-12; B.W. 3-10		" Endo 6x1gr	2-12	L. Lock Jap 1-10 2-9 3-4 4-6
Euquinine Jap 3-4; Eng. 4-8		Santonine Tabs 25	3-12	Metal case Ind. 1-3 1-10 2-3 2-11
Atebrin Bayer 15 0-10		" Calomel 25	2-4	Thermometer Zeal
300 7-2; 1000 11-0		Aletria Cordial Eng.	3-0	Japan 0-12; Germ 1-0; Eng 1-4
Camoquin 3 tabs	0-13	Coramin amps 5 2-11; 20 9-14	Needles: Germ. 1-12; D. B. 4-8	
Paludrine 1 gm	1000 22-0	Enterovioform 20 2-12; 100 11-7	All Glass Japan	2-4
" 3 gm	51-0	Grookes Coll. Cal. c Vit D	Flat Thermometer Japan	1-10

Tele: "ORBIT"

For full details and pricelist please write to:

## JAVERI BROTHERS,

Medicines Dealers, 191, Taswala Bldg.,  
Javeri Bazar, BOMBAY-2.

## 6 Gypsona bandages are need for this LEG CAST



GYPSONA IS RECOGNISED as the most economical plaster of Paris bandage on account of its exceptionally high plaster content. Moreover, every bandage is uniform and it is possible to determine beforehand how many are required for a particular cast.

This leg cast was constructed with three 6'x3 yds. and three 4' x 3 yds. Gypsona bandages. Two 6" bandages were made into a slab and laid down the back of the leg and under the sole. The cast was completed with the third 6" bandage encircling the top of the cast and the three 4" bandages around the calf, ankle and foot.

# Gypsona

TRADE MARK

**PLASTER OF PARIS BANDAGES**

*Made in England by T. J. SMITH & NEPHEW LTD., HULL.*

*Enquiries to: J. L. MORISON, SON & JONES (INDIA) LTD.,*

*P.O. Box 6527, Bombay 26. P.O. Box 387, Calcutta. P.O. Box 1370, Madras.*



**FORWARD**

with

**DUROL**



## INDICATIONS

**D**ebility

**U**nderweight

**R**undown conditions

**O**ff-colour complaints

**L**assitude

**T**iredness

**O**ligaemia

**N**eurasthenia

**I**ndisposition

**C**onvalescence

### DUROL CONTAINS:

Thiamine hydrochlor.  
Liver Extract  
Calcium glycerophosphate  
Sodium glycerophosphate  
Strychnine phosphate  
Alcohol

**DUMEX**



DANISH UNITED MEDICAL EXPORT

Sole Agents: THE EAST ASIATIC CO. (INDIA) LTD., Wavell House, Ballard Estate, Bombay 1





## A DOCTOR'S DUTY...

... is to keep abreast of the latest advances in his field. CINTHOL, the only soap containing epoch-making Hexachlorophene—dihydroxy-hexachloro-diphenyl-methane or G-II—is the first and *only* proved, effective and non-irritating germicidal and deodorising chemical for soaps, brought to India by Godrej after amazing success in America and Europe for the last ten years and with actual scientific proofs based on regular and continuous tests.

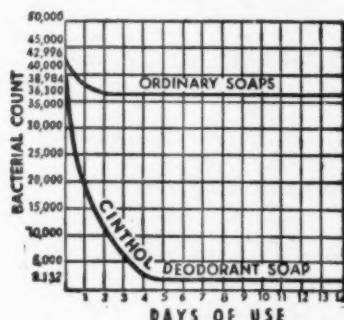
A standard patch-test by Schwartz has proved that revolutionary G-II soap is *milder* than the best grade of ordinary

soap. Cinthol drastically reduces pathogenic and non-pathogenic organisms and is non-toxic.

Cinthol purifies the skin and keeps it free from impetigo, acne, boils, styes, cellulitis, carbuncles, furuncles, athlete's foot, prickly heat, etc. It also gives protection against cutaneous infections from barber and beauty shops and hair follicle infections. The regular use of Cinthol prevents dermatitis. Fragrant, mild Cinthol is recommended for top-toe use: ideal for face, hair ... harmless to the eyes.

### FOR THE SURGEON

The laborious and time-consuming scrub-technique is eliminated by the substitution and *regular* use of CINTHOL at home and in the office. A 3-minute wash with Cinthol before an operation eliminates the use of alcohol or iodine, which is often employed to degerm the surgeon's skin. This practice has been in use extensively in operating theatres, dental clinics and general departments of hospitals in Canada and USA for many years.



The bacterial count of the skin is lowered to and kept at 5% of the normal after five days and onwards of regular use. Therefore, the skin is kept surgically clean.

*Godrej*

Hair Tonic with G-II prevents dandruff. Use with Cinthol in obstinate cases.

*Godrej*

Shaving Stick also contains G-II. It minimises the danger from cuts and abrasions—and is milder than ordinary shaving soaps.

Godrej have the *exclusive* rights for the use of G-II in India.  
Illustrated literature with bibliography freely supplied on application:

*Godrej*  
Regd.

SOAPS LTD.

Bombay — Calcutta — Madras — Cochin — Delhi — Ahmedabad — Hyderabad.

## A. P. APPARATUS

PEARSON & LILINGTON MODEL  
COMPLETE with S. S. Primary and  
Secondary Needles Rs. 45/- Nett

ELECTRO-MAGNETIC MACHINE with  
dry cells Rs. 32-0-0.

Send 20% Advance with Order.

*Surgical Instruments & Sundries  
Available at Reasonable Prices from :—*

**EASTERN SURGICAL CO.,**

Bhagirath Palace, Chandni Chowk, DELHI-6.

Medical & Surgical instruments  
Manufactured and repaired by  
us will surely satisfy you in  
quality, workmanship and price.

*Ask for our price list*

**CALCUTTA METALLIC CO.,**

11, Harish Mukherjee Road,  
CALCUTTA-25.

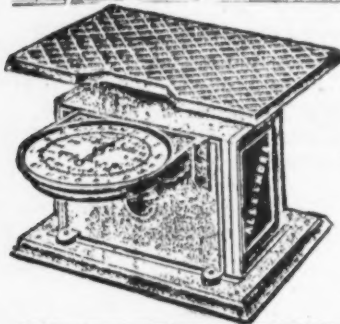


### Fresh arrival of German MICROSCOPES

- Sedimentation racks,
- Haemometers,
- Haemocytometers,  
& their accessories
- Laboratory glasswares.

**D. SHAH & Co.,**

24, Sardar Griha,  
Tobar Chawl, BOMBAY-2.



Don't Forget :— HERNIA TRUSSES,  
ABDOMINAL BELTS, ARTIFICIAL LIMBS etc.,  
PROMPT & SKILLED SERVICE

**J. HOSS & CO.** (Since 1934)

442, Sindhurst R.L. BOMBAY 4 Prop. L. C. DHAGE.  
Measurement Charts Available.



Diagnostic Set  
Rs. 22-0 each.



Semi Sterilizer  
Rs. 8-8 each.

Manufactured by :

**SURGE & CO.,**

Fountain Road, Delhi-6.

'Phone 11

'Grams : 'BINOD'

## THE BINOD MILLS CO. LTD.

Ujjain, Madhya Bharat

Manufacturers of :

**Lint Cloth, Boile Cotton and  
Absorbent Cotton Wool**

Largely used by Madhya Bharat  
Government Hospitals.

Also highly in demand at Calcutta, Bombay,  
Madras and Delhi Markets.

BEST FOR MEDICAL USE.

Enquiries solicited.

## FIRST AID & SURGICAL DRESSINGS

- HOSPITAL APPLIANCES,
- SURGICAL INSTRUMENTS,
- HOSPITAL FURNITURES,
- SCIENTIFIC APPARATUS,
- REAGENTS, INDICATORS & STAINS.

**NEW SCIENTIFIC MART,**

87-B, Chittaranjan Avenue, Calcutta-12.

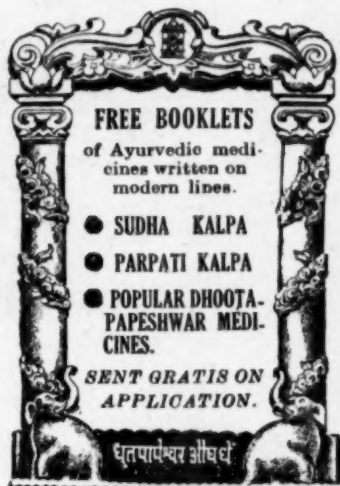
Distributors :—SURGICAL MART, Dibrugarh, ASSAM.

### LATEST MEDICAL BOOKS For Practitioners and Students

BEAUMONT—Medicine, Essential for practitioners and students '53 sh. 37/6 about 23	7
BEAUMONT & DODDS—Recent Advances in Medicine, 1952	17 3
BIRCH—Emergencies in Medical Practice, 1952	20 5
EVANS—Starling's Human Physiology '52	32 13
GHOSH—Materia Medica, 1952	20 0
GHOSH—Hygiene and Public Health, '53	17 8
MEDICAL ANNUAL, 1952 (special offer)	14 0
O'MEARA'S Medical Guide for India and the Tropics '47 with '52 supplement	22 8
ROGERS & MEGAW—Tropical Medicine, 1952	25 0
ROSE & CARLESS—Manual of Surgery, 1952 2 Vols.	39 6

### CURRENT TECHNICAL LITERATURE COMPANY, LIMITED,

Madras Branch:	Head Office:
3, Sunkurama Chetty St.,	Jehangir Bldg.,
P. B. 128, MADRAS-1.	Esplanade Road,
	P. B. 1374, BOMBAY-1.



### DHOOTAPAPESHWAR INDUSTRIES LTD.,

PANVEL, BOMBAY

Published November 1952

## HUMAN PARASITES AND PARASITIC DISEASES

*Deals with parasitological aspects, pathology, clinical features, diagnosis and treatment of parasitic diseases.*

By

K. D. Chatterjee, M.D. (Cal.)

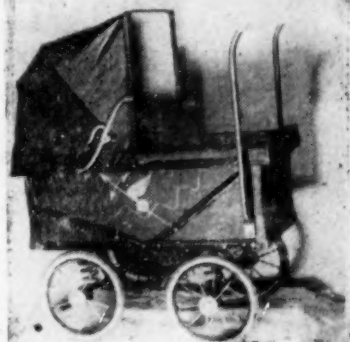
D/C 8vo. 766 pages, 328 illustrations, 82 in Colour. Price Rs. 65; £ 6 or \$ 16.75

COL. H. E. SHORTT, Director of the Department of Parasitology and Professor of Medical Protozoology, London School of Hygiene & Tropical Medicine, writes in the FOREWORD:

I have found this work to be remarkably up to the minute in its information and this makes it a reliable guide to the student preparing for his examinations .... bears comparison with similar publications produced anywhere in the world.

To be had from

**DAS GUPTA & CO., LTD.,**  
54/3, College Street, CALCUTTA-12.



### PUSH-PACK FOLDING PRAM SPECIAL

Manufactured from selected materials completely folding, durable, nice looking, economical to suit every pocket.

Rs. 48/- each

Packing & Forwarding Free.

Guaranteed Money Back if unapproved. 25% Advance with order.

Further details from:—

**CONTINENTAL PRAM HOUSE,**  
Gurdwara Road, K. Bagh, New Delhi.-5



### THE ALPINE SUN

Is one of the full range of equipment for ultra-violet and infra-red therapy manufactured by



**HANOVIA LTD.**  
SLOUGH, ENGLAND.

The Specialists in equipment for all the applications of ultra-violet rays.

## The therapy is accepted and this is the equipment!

Irradiation with ultra-violet rays starts beneficial reactions in the skin which extend to every cell in the body. It is 'the dynamic key which sets in motion the processes of recovery'. In hospitals the world over, more ultra-violet ray therapy is given today than ever before. In your own practice, you can earn the gratitude of many patients by its judicious administration.

Physicians everywhere accept the Alpine Sun (Model 9) as the best ultra-violet ray lamp. The makers put forty years' experience into its manufacture. It would be an asset in your practice. You can study the literature without obligation. Write to nearest agent now.

*Agents for information and supply:—*

**Bombay**

**MALGHAM BROS.,**

26, Old Custom House Road, Fort.

**Calcutta**

**ADAIR DUTT & CO., (INDIA) LTD.,**

5, Dalhousie Square East.

**G.E.C. OF INDIA LTD.,** Chittaranjan Avenue.

**Madras**

**ADAIR, DUTT & CO. LTD.,** Mount Road.

**G. E. C. OF INDIA LTD.,** Mount Road.

M. 1/1195



**ORGANON**  
**LABORATORIES LTD**

**All Hormone prices  
including A.C.T.H.  
greatly REDUCED**

*Sole Agents for India*

**MARTIN & HARRIS LTD.**

**Branches :**

Calcutta: Mercantile Buildings, Lall Bazar St. Bombay: Savoy Chambers, Wallace Street, Fore.  
Delhi: Chandni Chowk. Madras: Sunkurama Chetty Street.



**For Rheumatoid Arthritis, Osteo-Arthritis, Sciatica, Fibrositis**

## **Tablet RHEUMOPHAN COMPOUND "Alarsin"**

**COMPOSITION :**

**GOLD BHASMA with Guggul (Mahayogra), Maharasnadi Quath**

**SPECIAL FEATURES:**

- \* There are no reactions. No toxic effects. No contra-indications even though the tablets contain Gold.
- \* Even in chronic cases only after about two weeks treatment notable results are obtained. Complete treatment lasts only for about 8 weeks.
- \* In cases of Chronic Infective Arthritis the blood sedimentation rate decreases within the course of about three weeks.
- \* In comparison with other known forms of treatments it is **SIMPLE, SAFE.**

**Available in Packings of 60, 120, 500 Tablets**

*Further Particulars from :*

**ALARSIN PHARMACEUTICALS (INDIA)**

Post Box 14,  
BOMBAY-1.

## **SCIENTIFIC APPARATUS**

We are glad to announce that we have taken up  
the manufacturing of Scientific Apparatus for

**INDUSTRIAL  
EDUCATIONAL  
AND  
RESEARCH PURPOSES**

**THE INDIA MACHINERY CO. LTD.**

*Mg. Agents :-* **DASS GROUP LTD.**

**29, STRAND ROAD, CALCUTTA.**

Telephone :  
Bank 1361 (3 lines).

Gram :  
"Marvellous", Calcutta.

for proper nutrition  
in all age groups..



Especially suited to children and others experiencing difficulty in swallowing tablets. Supplied in 4 and 16 ounce bottles.

RULE OUT VITAMIN B  
DEFICIENCIES WITH

**PANBLEX  
ELIXIR (BREWER)**

Containing all the B complex vitamins as found in yeast and liver, plus thiamine (B<sub>1</sub>), riboflavin (B<sub>2</sub>), pyridoxine (B<sub>6</sub>), niacin and calcium pantothenate.



**PHILIPS ELECTRICAL CO. (INDIA) LTD.**

X-RAY & MEDICAL DEPT.

**PHARMACEUTICAL DIVISION**

"PHILIPS HOUSE", CALCUTTA-20

BRANCHES : BOMBAY • MADRAS • DELHI • LUCKNOW • KANPUR



## For Pressing Tablets of Private Formulae

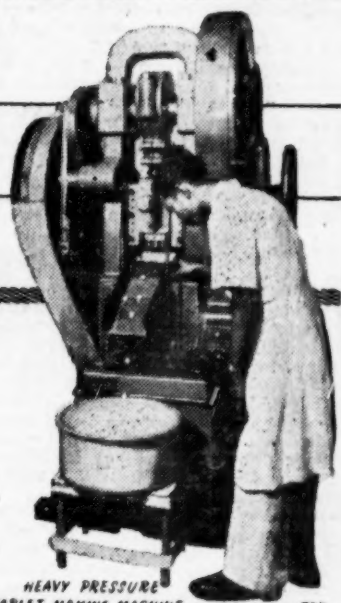
CONSULT

**TABLETS  
LIMITED**

11-12, FIRST LINE BEACH, MADRAS

Tablets Limited offer you outstanding manufacturing and packaging facilities for any type of tablet. The formulae are kept strictly confidential. You are invited to visit by appointment our well organised and equipped factory.

We can supply any quantity of pressed tablets—minimum order 5000. Write for our schedule of rates.



HEAVY PRESSURE  
TABLET MAKING MACHINE

TU/1

Telegrams:  
"CARBOSOL"

# NATH & COMPANY,

DRUGS, PATENT MEDICINES & SURGICAL DEALERS

Estd. in year  
1943

23-25, Parekh Building, Old Hanuman Lane, Princess St., Bombay-2.

Terms:—By V.P.P. or Bank. 25% advance for New Clients

On order upto Rs. 100/- Plastic Purse FREE & order of Rs. 1000 per year Plastic Doctors Bag FREE.

Isosicotinic Acid Hydrazide	Argyrol Orig. 6-14; Gaiacol Carb. 2-2	„ Zeal 2-10; USA 1-6; Eng. 1-6
Lepetit 100 3-4; Italy 50 2-4	Multivitamin tab. USA 1000 12-8	„ Hicks 3-8; Becon Flat 1-10
Dumex Isosicot 25's 2-6 100's 4-10	TCF. Vit. B Complex 6x 200 6-0	B.D. Stethoscope 24-12; Ger. 10-0
Squibb Hydrazide 25's 2-6; 100 7-4	„ 1000 5-0; 1x25x100 12-4	Plastic tubing 1-4; Rubber 0-12 yd
Chloromycin 12 Cap. 20-4; 14-4	„ W. Liver Ext. 10 00 3-1	Erkameter 72-0; Aspirin 3-14 lb.
Chloramphenicol Italy 12 cap.	„ „ „ O & B 1000 4-5	Detecto Weighing Machine 40-0
for Typhoid 14-0 Syntemycin 12	„ „ „ Vit. B <sub>12</sub> 4-12	Saline Appar. comp 30000 8-0
Auromycin 8 Cap. 19-2 [15-0]	„ Folic Acid Comp. 10 00 4-12	Wiscarsin large 9-8 [500 00 10-8
Terramycin 8 Cap. 16-12; 16 32-0	„ W. Liver Ext. 6x200 3-11	Wall Thermometer Japan 2-0
PF Strp. with Penicillin 3-4	Milk Plain 5 00 x100 13-0	Sandoz Cal. Gluco c Vit C.
Bel Merck 3-12	Milk with Iodine amp. 100x500 13-0	5 x 10 00 6-6; 10x5 00 10-10
Rhodia 2-14 Squibbs 3-4	Alotarin Eng 2-12; Rio 11-8	Sandoz Cal. Glu. 10% x1000 500 5/-
P.D. Canequin Tab. 0-12; Caneb	Risochin tab. 10 1-12; 100 14-4	„ 5 00 00 10 8-10
Penicillin G Cryst. [1000 6-12	Redoxen 6x200 4-12; 30x200 36-0	„ 50 amp. 44-0 100 00 20 19-0
1 2 5 10 laos.	„ 3x500 4-4; 25 x 500 28-0	Entervisor 20's 2-14; 100's 11-8
0-9 0-12 1-4 0 2-12 Merck	Merck H.T. Emelin 1/2 gr. orl gr. 3-12	Ans. Cotton 1-10; Lint 3-0
— 1-1 1-10 0 3-0 Pfizer	Sulpha Tab. 1000 500	Abs. Gauze 18 yds x 25 1/2 lb. 4-4
„ 0-9 0-11 1-3 3 2-1 Govt.	„ nilamide Eng. 10-12 5-8	Bandages 3 1/2 yds x 1 1/2 to 6 1/2 0-9
„ 0-11 0-11 6 1-4 2-2 Glaxo	„ guinidine „ 23-0 12-12	Bandages 6 yds x 3 1/2 JJ 4-0 doz.
Strepto c P.A.S. Lepetit 4-0	„ Pack Roy 21-0	Hot water bag 3-4; Ice bag 1-12
Dihydro Strepto 1grm. Glaxo 2-0	„ thiazole Eng. 38-0 19-0	Hypo. Syringe (S.N. Re. 1 more)
Merck, Bel. or USA 1-14; Pfizer 2-4 1/2	„ mezzathine (100 6-14) 28-8	A.G. Jap. 2 5 10 20 30cc.
Procan Penicillin 30 laos 6-12	„ diazine USA 73-0; MB 41-8	0-8 0-12 1-0 1-12 2-8
Ind. Govt. Dumex PF. Gl.	„ Beets 41-8 500; BDH 38-8	Italy 1-2 1-12 2-8 3-8 5-8
4 laos 1-3 1-3 1-15 1-13	Sulphatrons (100 10-0) 41-4	Germ. 1-0 1-4 1-12 2-8 4-12
3 laos x 10 00. Oily Dumex 10-0	Sulphatriad MB (100 9-0) 44-0	Record Ger. 3-4 5-0 6-8 9-0 12-8
Penicillin Skin Oint 1-8 Eye 1-2	Sulphonamide Bayer 1 lb. 8-4	„ Comp. 6-0 9-0 11-0 —
„ Lotengis 20 1-4 [2 laos x10 5-8	„ cream 4 oz. Lilly 5-0 doz	Boston 5-0 5-8 6-8 11-12 15-4
„ Tab. 1/2 laos 12 4-6 1 laos 7-8 FF.	Gentian Violet Jelly 4 oz. Lilly 4-4	B.D. Lock 8-4 14-0 15-0 17-0 23-10
„ 1/2 laos Heydon 3-10 1 laos 7-0	Emetine amps. BDH 1/2 gr. x12 7-8	Japan „ 1-8 2-8 3-8 5-0 7-0
PAS 5 Cal. or PAS Plain 100 3-8;	„ 1 gr. x12 13-0; 1/2 gr. x 25 13-0	Italy M. case — 2-8 3-4 —
250 8-0; 500 15-8	„ 6x1/2 gr. 3-14; 100x1/2 gr. 51-0 box	Ind. „ 1-4 2-0 2-12 3-4
P.A.S. Dumex 100grm 10-5 11-13 1-2	„ Endo 6 x 1/2 gr. 2-13	Metal case Ind. 5000 6-0
„ Quality Ger. 100 grm 6-8	„ P.D. 1/2 gr. x 6cc 7-4 1 gr. 11-0	Hypo Syringe 50 00 S.N.
Quinine Jap. 34-0; Java 56-0	Raiya Emetine 1/2 gr. x25 x 100 10-8	Jap. 4-4; Italy 8-0; Germ. 9-0
„ Holland. 48-0; Howds 56-0	„ 1 gr. x25 x 100 18-12	B.D. Luer Lock 29-0; Jap. 9-8
„ oz Jap. 3-2; Howds 4-4	B.W. 1/2 gr. 8-8; 1 gr. 7-12	Record Ger. 23-8; Italy 21-0
0. Bihydro Amps. 100x10grm x200.	Cibazol 250 x 13-12; 20's 1-12	Record Needle (Perfection 5 0)
Ind. B.D.H. Evans B.W. P.D.	MB 760 27-12; MB 693 500's 41-4	Jap. Germ. Star. D.B.
„ 15-8 22-8 22-8 32-8 36-8	First Aid Box 11-8 [Amyl Nit. cap 1-8	1-12 1-10 4-0 4-8 Dr.
„ 10-12 14-8 15-0 100x15gr. 100.	Vitamin B tab. U.S.A. 500 1-12	All Glass Needles Luer Mount
Euquinine Howd. 4-8; Java 4-12	Liver Ext. 1000. 2 USP P.D. 3-12	Jap. 2-8 Ger. 3-4 D.B. 5-8 B.D. 10-0
„ Roche 6-2; Jap. 8-2	„ 5 USP P.D. 7-14	Alebrin Amp 3 grm x 2 3-8 25 16-8
Q. Tab. 2grx 100 2-8; 5gr 4-12 New	Campelan 5x200 3-8; 25x200 25-12	„ 0.1 grm. 6 3-6 [Teeth Forcep 4-8
„ 5 gr. 1400 How. 55-0	Cal. Glu. 10% x 10 00 100 13-0	Campmor in-Oil 3 gr. x 10 00 x100
„ Bihydro 2grx 1003-0; 5gr 6-12 Roch	Glucose Sol. 25% x2500 x50 10-0	N. Saline 100x500 6-8 [Cipla 3-12
Pamaquinine 300 Tab. 0-12	„ Thilo Germ. 50 amp. 19-0	Ornophon Amps with Needle
Asparine 1000 Eng. 5-8; Ind. 4-4	Atophanyl I.V. Ger. 5-2; I.M. 5-6	Nivaquin 10 1-12 [Tube 0-8
Mepacrine Eng. 1000 11-8; ICI 12-4	Meria 50mg. 3-2; 100 mg. 4-6	F.L. Durex Tin. 2-8 doz. Pkt. 2-0
U.S.A. 5000 52-8; bot. 1000 11-8	Calci Ostelia 1500 3-3 Entedes 8-0	Ear, Metal Syringe 20x 5-4;
Epheadrin 4 Gr. 1000 5-8 Germ.	NAB. 15 x 0-10; 3 0-11; 45 0-13;	Waterbury Co. 5-2 bot. [4 oz. 6-8
Yeast Tab. Eng. 5gr 5-8; 7gr 7-4	Nicotinic Acid 500 2-4 [6 0-15	Oil Chin-podium oz. 5-8
Soda Mint „ 2-12; Ind. 1-14	Acetolacton Adult 6-6 Child 4-14;	Disp. Scale Nick 5-4; Brass 4-0
Paludrin 1000 x 1 gr. x 21-2	Alebrin Bayer 15 0-10; 300 7-4;	Irgaprin 5 amp 8-12 box
„ 3 grm x 500 24-8; 1000 50-0	Child 1000 11-0; Adult 1000 13-8	Gynomin tab 2-0 tube Spiton 3-0
Ext. Ergot. 4 oz 5-0 lb. 16-0	Diatil Water 100 x 5 00.	5-2 Acriflavin 25grm 2-4; 5grm 0-12
Saridon tab. 10 1-8; 250 25-4	„ 1000 6-12; 200 3-12	Chysophanic Acid oz. 3-0
Potas Chloras 1lb. 3-0; tab. 1000 6-8	Sil. Vit. France 2-12; Protargol	Quinaerin amps 0 3grm tube 0-12
B.T. Ind. Morph Sul 1/2 gr x 20 2-8	Ethyl Chl. 100grm. Ger. 2-8 [1-12	Cal. Gluconate Eng. tab 1000 7-12
„ B.W. „ 1/2 Ato. 1/2 gr x 20 6-0	Sedasy 3-12 lb. Santenine dr. 5-8	Codina Phos 5-4 Dionine 7-0dr.
Ind. Morph Sulph 1/2 gr 12 amps 5-8	Calenal oz. 1-4; Chlorobutol 1-8	Cafina Citrus 1-12 Bis Carb oz 2-0
Sulphamezethin 25 amp. 7-8	Menthol 3-4; Gentian Violet 1-0	F.L. Washable Durex each 2-4
	Thermometer Germ. 1-0; Jap. 0-11	Vit. c tab. U.S.A. 1000 18-8

Morphia Tartarate Amp. Squibbs 5 x 1-5 cc. x 1/2 gr 0-10 box.

Do not be tempted by free packing but see our Prices before placing order

*Calchemico's*

## RAUWOLFIA PREPARATIONS

Containing Total Alkaloids of Rauwolfia serpentina

- Rauwolfina Tablets
- Rauwolfina Liquid
- Santina—(Rauwolfina Powder)
- Rauwolfina Compound Tablets  
(with Phenobarbitone and Theobromine)

*For efficacy and relief*

IN

### HYPERTENSION

Their Effects are—

**SEDATIVE**

**RELIABLE**

**REFRESHING**

**NERVE-SOOTHING**

in all varieties of cases of hypertension benign and malignant.

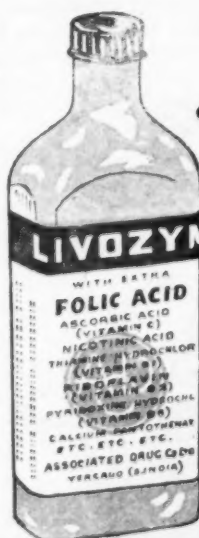
*Literatures on request.*

**The Calcutta Chemical Co. Ltd.**

35, Pandita Road,

CALCUTTA-29

S. I. Office:—5/149, Broadway, MADRAS-1.



# Livozyme

WITH EXTRA

## FOLIC ACID

IS A MODIFIED

Non-Ferruginous Form of the Nutritive, Nutrition-Promoting, Non-Alcoholic and Restorative Tonic, LIVOZYME, fortified with Extra Folic Acid, Riboflavin, Calcium Pantothenate Pyridoxine Hydrochloride and Ascorbic Acid (Vitamin C).

Possessing enhanced Haemopoietic action in Nutritional Macrocytic Anæmias and an enhanced repairing and tonic effect on the Neuro-Muscular Mechanism of the Gastro-Intestinal Tract in Sprue Syndrome.

**ASSOCIATED DRUG CO., LTD. YERCAUD (S. INDIA)**

*A New Combination*  
**ALKASOL with VITAMIN "C"**

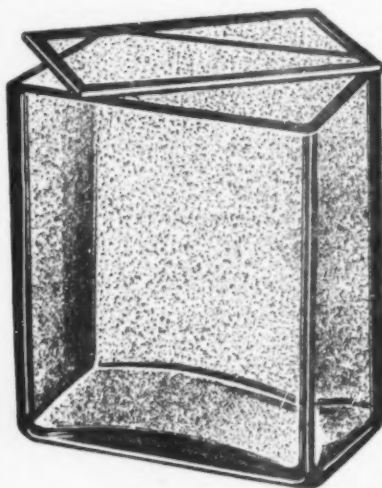
*Contains in each fluid ounce :*

Di-sodium hydrogen citrate .. 120 grains.  
 Vitamin "C" (L-ascorbic acid) .. 100 mgs.

**FOR BETTER EFFICACY IN**

Infections, Toxic manifestations Febrile conditions,  
 During Sulpha drug administrations, as a Systemic  
 alkaliser and in all cases where the system  
 required additional alkali and Vitamin "C".

**STADMED LIMITED,**  
**CALCUTTA-4.**



*Fresh arrivals:*  
**Anaerobic Jars from Czechoslovakia**

*(For Specimens in Pathology & Bacteriology Departments) Following sizes are arrived :*

- (1) 28 x 24 x 7 cms
- (2) 22½ x 18 x 8 cms
- (3) 26 x 15 x 8 cms
- (4) 25 x 22 x 10 cms
- (5) 31 x 29 x 11 cms
- (6) 34 x 25 x 12 cms
- (7) 36 x 15 x 10 cms
- (8) 25 x 25 x 12 cms
- (9) 42 x 10½ x 7½ cms
- (10) 20 x 13 x 13 cms
- (11) 30 x 21 x 16 cms
- (12) 50 x 25 x 12 cms
- (13) 20 x 15 x 10 cms

PRICES ON REQUEST

Also other Laboratory Apparatus  
 & Requisites of every description of  
 various world-known makes :

*For particulars please contact :*

**UNIQUE TRADING CORPORATION**

Grams : "UNILAB"

51-53 New Hanuman Lane, BOMBAY-2.

Phone : 26983





## The Value of Angier's in Gastro-Intestinal Disorders

The value of the beneficial qualities of Angier's Emulsion is recognised in the treatment of gastro-intestinal disorders of a catarrhal, ulcerative or tubercular nature. Angier's exercises soothing, lubricating, anti-fermentative effects throughout the entire digestive tract. It cleanses the mucous membrane, allays irrita-

tion, catarrh and ulceration. Angier's promotes normal healthy action of the bowels and restores tone to the digestive functions. The addition of hypophosphites makes Angier's a reliable nerve tonic; it is therefore indicated in nervous troubles associated with mucous colitis and other intestinal disorders.

Proprietors: THE ANGIER CHEMICAL COMPANY LIMITED

Distributors in India:

MARTIN & HARRIS LTD., Mercantile Buildings, Lall Bazar, CALCUTTA.

# ANGIER'S

*Emulsion*

In Dysmenorrhœa (Spastic pains), Restlessness in Children and Adults, Organic Dysfunctions (nervous heart troubles, anxiety neurosis, gastro-intestinal disturbances, vasoneurosis).

## BELLINDON

SEDATIVE OF THE PERIPHERAL AND CENTRAL AUTONOMOUS SYSTEMS



PHARMACEUTICALS

Each tablet contains:

Atropine Meth. Nitr.	..	0.009 mg.
Scopolamine Hcl.	..	0.026 ..
Hyoscyamine Hcl.	..	0.013 ..
Phenobarbital	..	21.6 ..

Manufactured by

# INDO-PHARMA

PHARMACEUTICAL WORKS  
BOMBAY 14 CALCUTTA 13



... the pleasant part  
of convalescence!

Prescribe Vibrona—and you prove to the patient that there is a brighter side to convalescence. The delightfully rich and satisfying flavour of Vibrona betrays none of its outstanding medicinal properties. Yet it contains Nicotinamide, Aneurine Hydrochloride and Cinchona Alkaloids in *therapeutic* amounts; small wonder it is so successful in speeding recovery from malaria, dengue and similar debilitating illnesses, and is invaluable in pre- and post-natal treatment.

Obtainable from all good Chemists.

Sole Representatives in India:—

H. Bhattacharyya & Sons, 11, Simla St., Calcutta.

Prepared in England by:

FLETCHER, FLETCHER & CO. LTD., VIBRONA LABORATORIES, LONDON, N.7.



**Vibrona**

the ideal tonic

**OXOID**  
BRAND  
**LIVER EXTRACT**

(I. M.)

"A highly Potent whole Liver Extract containing, in addition to the true pernicious anemia principle, the greater part, of the other water soluble active substances in the liver, including particularly the members of the Vitamin B Complex"

BOTTLES—10 c.c. 20 c.c. ampoules 2 c.c.

Each c.c. contains the active principles of 10 grams of Liver.



Manufactured by: **OXO LTD., LONDON**

Sole Distributors:

ANGLO THAI CORPORATION LTD. P. O. BOX 70, BOMBAY.  
MADRAS & DELHI, HERBERTSONS LTD., CALCUTTA.

## Diet during Digestive Disorders

Physiological tests show that Horlicks is easily digested, readily absorbed and well utilized. It forms a valuable diet in ulceration of the stomach and duodenum, gastritis and digestive disorders generally. It buffers gastric activity and furnishes adequate nourishment without burdening the weakened digestive powers of the patient. In some cases an emulsion of Horlicks and olive oil is beneficial. The nutritive qualities of Horlicks also make it an ideal diet not only in acute illness and during convalescence but in other conditions of ill-health which are favourably influenced by correct dieting.



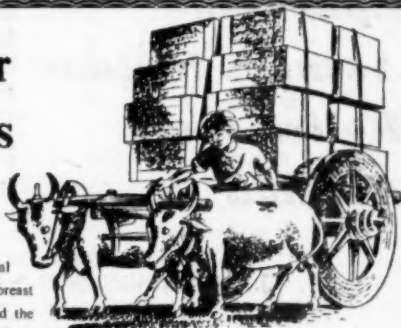
# HORLICKS

PRESCRIBED WITH CONFIDENCE FOR OVER HALF A CENTURY

## Paired for Effectiveness

The association of methyltestosterone and ethinyloestradiol in DUOGEN enables a reduction to be made in the effective dose of oestrogen for the relief of menopausal symptoms. Undesirable side-effects such as breast turgidity and pelvic congestion are avoided and the risk of withdrawal bleeding is reduced. The anabolic properties of the combination provide an increased feeling of confidence and well-being.

In ageing people of both sexes DUOGEN, through improvement in the general nutritional condition, retards both mental and physical decline



## 'DUOGEN'

ETHINYLOESTRADIOL 0.01 mg.  
METHYLTESTOSTERONE 3 mg.

DOSAGE: Menopause - 2 to 6 tablets daily.  
Premenstrual tension and dysmenorrhoea - 2 tablets daily from 10th to 22nd day of menstrual cycle. Geriatric conditions - 3 to 6 tablets daily.

BOTTLES OF 25 & 100.

THE BRITISH DRUG HOUSES LIMITED, LONDON

Representatives in India:

BRITISH DRUG HOUSES (INDIA) LIMITED

POST BOX 1341, BOMBAY 1

Branches at: CALCUTTA - DELHI - MADRAS

*In case of*

Vomiting in Pregnancy, Post Anaesthetic Vomiting, Agranulocytosis, Leucopenia resulting from Chemotherapy, Pellagra, & Nervous Diseases e.g. Parkinson's Disease etc.

*please prescribe*

PHENIX

**PYRI-B**

(To be pronounced as Pyribe)

Each c.c. represents :-

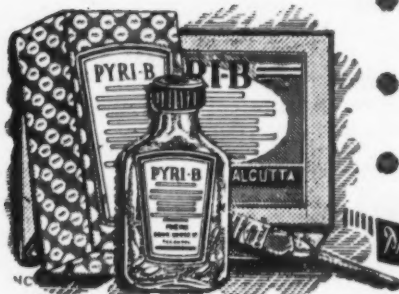
Pyridoxine Hydrochloride	—	80 mg.
Thiamine Hydrochloride	—	80 mg.
Calcium Pantothenate	—	20 mg.

Each Tablet represents :-

Pyridoxine Hydrochloride	—	80 mg.
Thiamine Hydrochloride	—	80 mg.
Calcium Pantothenate	—	2 mg.

Packings :-

Box of 10 Amps. of 1 c.c.    Bottle of 10 & 20 Tablets.



Product of **PHENIX DRUG HOUSE LIMITED.**

POST BOX No. 682. CALCUTTA-1.

**NATURAL  
Ephedrine  
Assures Instant  
Relief from  
Asthma . . .**

Conforming to B.P. standards, Marker Alkaloids' Ephedrine Hydrochloride is a pure natural product made from Ephedra Herb and is highly effective in the treatment of respiratory disorders marked by obstructive or difficult breathing. In containers of 100, 500 and 1,000 of  $\frac{1}{2}$  grain,  $\frac{1}{4}$  grain and 1 grain tablets. Pure Natural Ephedrine Hydrochloride crystals in 1 oz., 4 oz. and 1 lb. packing.

Sole Distributors in India:

**J. L. MORISON, SON & JONES (India) LTD.**

Bombay	Calcutta	Madras
P. Box 6527	P. Box 387	P. Box 1870

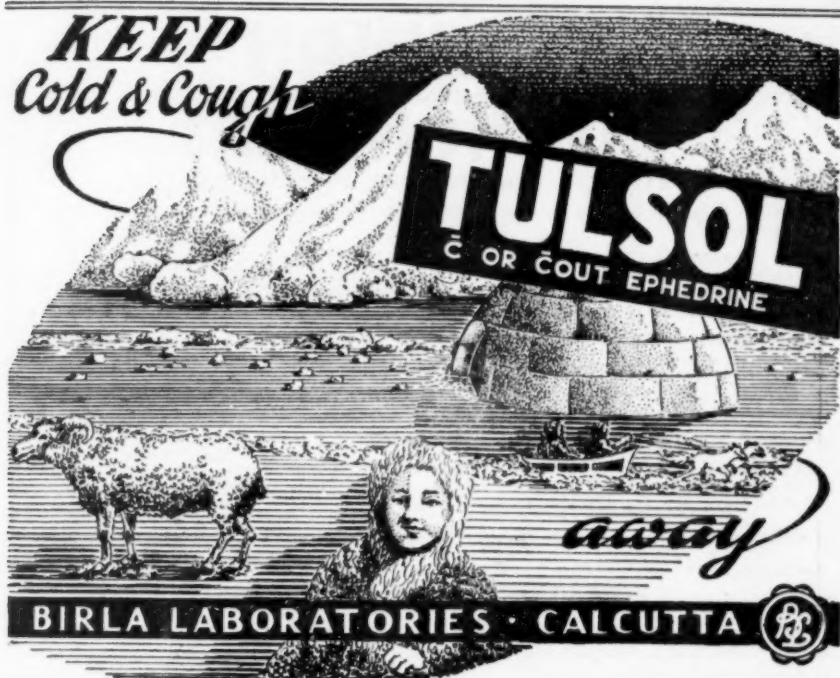


**MARKER ALKALOIDS**

QUETTA

MANUFACTURERS OF PURE DRUGS & FINE ALKALOIDS FOR THE MEDICAL PROFESSION

**KEEP**  
*Cold & Cough*



**Arousing the WILL to recovery**

Once an operation or a crisis is passed, weakness and exhaustion are the main problems. At this stage, re-awakening the patient's will to health—as every physician knows—is half the battle; and that is precisely the half that Wincarnis can help to win. Wincarnis is palatable enough for the most reluctant appetite to accept; it is easily digested; it acts as a gentle stimulant to weakened gastric processes. A wineglass or so of nourishing Wincarnis each day and, almost unconsciously, the patient passes from a lowered and exhausted state, to one of gradual but growing revival.

★ Wincarnis is a combination of pure matured red wines with strengthening elements and malt extract.

**WINCARNIS** ★ Over 25,000  
recommendations from medical men

COLEMAN & CO. LTD., WINCARNIS WORKS, NORWICH, ENGLAND

# BRANNAN GUARANTEED THERMOMETERS

CLINICAL - HOUSEHOLD - INDUSTRIAL

Brannan's Clinicals include Standard Long Stem Clinicals and stubby.

When ordering Thermometers, be sure of accuracy by insisting upon Brannan high-grade scientific instruments, made by skilled Craftsmen in Great Britain's most modern Thermometer factories.

Brannan Thermometers cover every normal manufacturing and industrial requirement. Our experts will be happy to co-operate in creating special instruments to solve particular problems.

OTHER THERMOMETERS INCLUDE

CHEMICAL THERMOMETERS  
WALL THERMOMETERS AND  
MIN./MAX. THERMOMETERS

*Enquiries:-*  
**BOMBAY :** H. S. COX & CO., LTD., 24,  
Rampart Row, P.O. Box 427  
**CALCUTTA :** M. G. SHAHANI & CO., (Cal.)  
Ltd 3, Chittaranjan Avenue.  
**NEW DELHI :** M. G. SHAHANI & CO.,  
Connaught Place.  
**MADRAS :** ORIENTAL MERCANTILE  
AGENCY, P. O. Box, 10  
*Manufactured by :* S. BRANNAN & SONS LTD  
London and Cumberland  
*Export Branch :* LYALL WILLIS & CO., LTD.  
Drayton House, London,  
W.C.1. England.



## Calchemico's

# GASTRO-INTESTINAL THERAPY

including Liver Therapy

### 1. TRYZYM TABLETS :—

A combination of the four digestive enzymes Pepsin, Pancreatine, Diastase and Papain acting both directly and indirectly to excite secretion of digestive juices, Nux Vomica and the components of Vit. B acting as supplementary tonics. Tryzym would be found ideal for the treatment for varied types of dyspepsia, the combined enzymes and tonics will help digestion and restore the functions of the digestive and hepato-biliary tracts.

### 2. PTYCHO SODA CO. TABLETS :—

A balanced combination of sialagogue antacid and adsorbents with carminatives and essential oils. Useful for gastritis, hyperacidity and sedative action in the gastro-intestinal tract.

### 3. CARBO-CITRA :—

An alkaliser of the body-fluids by a balanced action of its constituents. Its action extends to the urinary and other tracts when alkalisation is indicated.

### 4. HEPATINA :—

A digestive hæmatinic tonic containing extract of the whole edible liver (goats'), Iron, Phosphates, Strychnine and Vitamin B Components etc. A remarkable tonic to aid and restore the functions of the digestive and the nervous systems and enrich the blood.

*Detailed literatures on request.*

**THE CALCUTTA CHEMICAL CO. LTD.,**

Head Office: 35, PANDITIA ROAD, CALCUTTA-29

S.I. Office: 5/149, Broadway, C.T. MADRAS.



# ZANDU'S HEPOFERRUM

(WITH FOLIC ACID)



A

RENOWNED REMEDY

for



All types of Tropical Anæmia,  
Nutritional setbacks, debility  
& convalescence after prolonged illness

For particulars please apply to :

The Zandu Pharmaceutical Works Ltd., P.O. Box No. 7015,  
BOMBAY-28.

## Ergoapiol-(Smith)

### A Menstrual Regulator . . .

When the periods are irregular, due to constitutional causes, ERGOAPIOL (Smith) is a reliable prescription. Containing apiol (M.H.S. special) together with ergot and oil of savin of the highest quality, this preparation effectively stimulates uterine tone and controls menstrual and postpartum bleeding.

In cases of Amenorrhea, Dysmenorrhea, Menorrhagia and Metrorrh.

hagia, Ergoapiol serves as a good uterine tonic and hemostatic. Valuable in obstetrics after delivery of the child.

DOSAGE: 1 to 2 capsules 3 or 4 times daily. Supplied only in packages of 20 capsules. Literature on request.

As a safeguard against imposition the letters MHS are embossed on the inner surface of each capsule, visible only when the capsule is cut in half at seam as shown.



MARTIN H. SMITH COMPANY  
NEW YORK, N.Y., U.S.A.

*Used by renowned Bombay Hospitals  
Prescribed by Eminent Physicians*

**Serving the country since 1931**



**Rates :**

Rs. 21/- per doz. for size No. 1 (10½ oz.)

Rs. 11/8 " " Trial Size

F.O.R. Bombay.

(In force from 1-2-1951)

Antiphlozone is useful even in the most serious cases of Pneumonia and other inflammatory complaints.

**NOTE.**—Free sample cannot be supplied.

**Sold by all Good Dealers.**

*Or write to :*

**Manufacturers:—THE ZONE CHEMICAL CO., BOMBAY, 4.**

# AMPHEDRIN

*Tablets*

**In the management of**

**ASTHMA**

**AND**

**HAY FEVER**

**Composition :**

Aminophylline ... 1½ grs.

Phenobarbital ... 1/6 gr.

Ephedrine Hcl. ... 3/8 gr.

*Prepared by*

**BIOLOGICAL RESEARCH LABORATORIES,  
BOMBAY-24.**

**AND**

*Distributed by :*

**PRIMCO LIMITED,**

Lamington Chambers, Lamington Road, Bombay-4.

## In confidence...

Even in these enlightened days, guidance on methods of family planning can do much to remove anxiety and promote a patient's mental and physical well-being. Gynomin entirely fulfils the requirements of a modern contraceptive and may be accepted with confidence.



- Spermicidally efficient
- Clean in application—non-greasy
- Harmless to health
- Keeps perfectly in all climates

Formula No. CDL 1040.

# GYNOMIN

The scientifically balanced, antiseptic and deodorant contraceptive—in tablet form

Medical Literature and samples on request

**COATES & COOPER LTD** West Drayton  
Middlesex, England

## In Case of Diabetes

# DIAMELIN

will be found extraordinarily effective

Composed of:

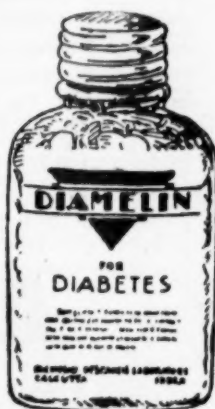
Hyd. Prep., Stan Prep., Ferri Sesquiox.,  
Perl Ust., Silic Bambus., Gum. Opii.,  
Gum Cardam., Test Ovi Ust., Terra.  
Ferrug., Ext. Eugen : Jambul., Ext. Tine-  
spor., Ext. Azadirach., Ext. Fic. Glom.

- DIAMELIN is presented after prolonged experiments. It aims at not only correcting the defects of pancreas but also of the liver, nervous system, kidneys, and ductless glands which of late are also considered to be causative factors of diabetes.
- DIAMELIN does not suppress symptoms. It gives thorough and lasting results.
- DIAMELIN is very agreeable to take and is easily assimilable.
- DIAMELIN which is already extensively prescribed by doctors, is worthy of your trial.

Available in packing of 50 tablets at all leading chemists @ Rs. 5-12-0 per phial.

Detailed literature and samples on request from:

**DIAMELIN RESEARCH LABORATORY, P. O. Box 107, CALCUTTA.**





Containing fats of high food-value plus Vitamin A for resistance to infection and Vitamin D which enables the hypophosphites to supply essential calcium, Scott's Emulsion provides ideal nourishment for convalescents. And because it is emulsified, the weakest digestive system can assimilate all the nutriment of Scott's Emulsion.



recommended for 79 years

**SCOTT'S Emulsion**

Distributors

Imperial Chemical Industries (India) Limited  
Calcutta • Bombay • Madras • Cochin  
New Delhi • Kanpur



**A VALUABLE  
SOURCE OF PROTEIN**

*Indicated in:*

**Pre-and post-operative  
treatment**

**Febrile conditions**

**Pregnancy and lactation**

**Dysentery etc.**

Clinical observation shows that these conditions are accompanied by protein depletion, resulting in a negative nitrogen balance. The condition of the patient may further aggravate this, owing to his inability to consume the food offered. In such cases care should be taken to include in the diet selected foods of high protein value which are palatable and easy to assimilate.

**BRAND'S ESSENCE OF CHICKEN**

IN 10 CC PHIALS

Manufactured by: **BRAND & CO., LTD.,  
LONDON**

Agents: **GRAHAMS TRADING CO. (INDIA) LTD.  
CALCUTTA — MADRAS — BOMBAY — DELHI.**

Brand's Essence of Chicken is a first-class protein of animal origin. Being partly hydrolysed, it is capable of easy ingestion, digestion and absorption. It is extremely palatable and may be taken either as a jelly or as a liquid. It is an ideal means of supporting convalescence and restoring a positive nitrogen balance.



**A NEW COMBINATION!**



Simultaneous administration of penicillin and sulfonamide drugs is becoming more widely accepted in anti-infection therapy. Clinical and experimental investigations have shown that combined therapy in many infections is more effective because of the synergistic antibacterial action of the antibiotic and sulfonamides. Development of bacterial resistance is minimized and the incidence of toxic reactions is reduced.

For the treatment of infections susceptible to the oral administration of penicillin and sulfonamides, the Medical Research Division of Sharp & Dohme has developed PENTRESAMIDE, a combination of three sulfonamides with penicillin. This combination provides a synergistic antibacterial action notably effective in combating many infections.

PENTRESAMIDE contains three of the safest and most effective sulfa derivatives, reinforced with potassium penicillin G.

**COMBINATION OF  
3 SULFONAMIDES  
WITH PENICILLIN  
FOR SYNERGISTIC  
ANTIBACTERIAL EFFECT**



SOLE IMPORTERS

**VOLKART BROTHERS**

BOMBAY CALCUTTA MADRAS COCHIN  
DELHI KANPUR COLOMBO

Scientific literature from Bombay, P. O. Box 199



I-5296A



***The antispasmodic antacid preparation  
now available in convenient tablet form***

'NEUTRADONNA,' the well-known antispasmodic and antacid powder which is widely prescribed for peptic ulcer and acid dyspepsia, is now available in the form of tablets. These provide a particularly convenient form of treatment for the ambulant patient.

**'NEUTRADONNA'  
POWDER & TABLETS**

(Aluminium sodium silicate with extract of belladonna)

Each 'Neutradonna' Tablet contains 10 grains of the efficient buffer antacid aluminium sodium silicate, together with antispasmodic belladonna alkaloids equivalent to 2.8 minims of tincture of belladonna. The tablets are packed in cartons of 12 packets of 12 tablets, each packet being sufficient for one day's treatment. Neutradonna powder is available in tins of 100 Gm.

● Literature gladly sent on request to :

**INDIAN SCHERING LIMITED**

Mercantile Chambers (1st Floor) Graham Road,  
Ballard Estate, Bombay, 1.

*Agents for*  
**British Schering Limited**  
LONDON

To aid Nutrition  
during  
**CONVALESCENCE**



**R**ECOVERY from the effects of dietary errors, fevers and other debilitatory diseases, is accelerated by a course of 'Ovaltine'. It is easily digestible, is acceptable to even the most jaded appetite, and provides a powerful source of energy and assistance to tissue regeneration.

How does 'Ovaltine' fulfil these functions? Because it is a concentrated extraction combining the finest foods provided by Nature. These foods include fresh, creamy cow's milk, ripe barley malt, specially prepared cocoa and other energy-giving foods, together with natural phosphatides and vitamins. 'Ovaltine' is further fortified with additional Vitamins B and D. *The nutritional and vitamin content of 'Ovaltine' is of special importance. There is nothing like 'Ovaltine'.*

'Ovaltine' is of assistance, too, in bringing sound, restful sleep with resultant benefit to body, brain and nerve. It is found to be of greater and more lasting value than chemical stimulants.

# OVALTINE

Distributors: **Grahams Trading Co. (India) Ltd.**, 16, Bank Street, **Bombay**,  
also at **Calcutta and Madras**.

**A. WANDER LTD.**, 42 Upper Grosvenor Street, London, W.1, *Laboratories, Works and Farms*;  
**King's Langley, Herts, England**

© 1935

## *The restorative tonic* **'LIVOGEN'**

Livogen is invaluable in all cases of nervous depression, reduced vitality, and general debility. It restores vitality rationally, by supplementing depleted vitamin B reserves of the body. It is a balanced combination of liquid extract of liver B.P., extract of yeast, vitamin B<sub>1</sub>, and nicotinic acid. The suggested dosage is two teaspoonfuls once or twice daily. Literature is available to members of the medical profession on request.



Each fluid ounce contains  
10 micrograms of Vitamin B<sub>12</sub>  
Bottles of 4 and 16 fluid ounces.

## **'MULTIVITE'**

*The convenient Vitamin Supplement containing balanced proportions of the essential vitamins*

### **A, B<sub>1</sub>, C & D<sub>2</sub>**

- ★ *Approved by Doctors*
- ★ *Preferred by Adults*
- ★ *Enjoyed by Children*

**MULTIVITE** in chocolate-coated pellets can be chewed and enjoyed like a sweet when difficulty in swallowing is experienced.

**MULTIVITE** is the original preparation in which fat-soluble and water-soluble vitamins are combined in one compact palatable product.

**MULTIVITE** restores appetite, dispels listlessness, and reduces susceptibility to infection.

**MULTIVITE** is economical too—two pellets provide the daily adult requirement of the four vitamins essential to health.

**in chocolate-coated pellets** Bottles containing 30, 60, 250 & 1000 pellets

**THE BRITISH DRUG HOUSES LTD., LONDON**

Distributed in India by:

**BRITISH DRUG HOUSES (INDIA) LTD., P.O. BOX 1341, BOMBAY 1**

Branches at: CALCUTTA - DELHI - MADRAS



*More unsettled than the winds that blow are a woman's moods in the middle years.*

Tossed by varying emotions, as changeable as the wind, the woman at the menopause is at the mercy of her moods. Apprehension, flushing, irritability and depression prevail and unless active measures are taken, the outlook remains clouded and uncertain throughout many difficult years.

Euvalerol M, the ideal sedative in menopausal conditions, alleviates nervous phenomena and vasomotor disturbances and restores the emotional balance.

Euvalerol M contains a preparation obtained from valerian root from which the unpleasant odour, characteristic of valerian is eliminated. To each fluid drachm (4 c.c.) of this odourless preparation of valerian are added  $\frac{1}{2}$  grain (16 mg.) of phenobarbitone and 0.1 mg. of stilboestrol.

## EUVALEROL M

In bottles of 4 and 8 fluid ounces.

Literature on application.



ALLEN & HANBURY'S LTD  
(INCORPORATED IN ENGLAND)  
CALCUTTA BOMBAY

# Cortone

ACETATE  
(Cortisone Acetate of MERCK & CO., Inc.)

*increasing supplies available . . .*

## FOR A GROWING LIST OF INDICATIONS

Among the conditions in which oral or parenteral administration of CORTONE has produced striking clinical improvement are:

**Rheumatoid Arthritis** and Related Rheumatic Diseases  
**Acute Rheumatic Fever**

**Allergic Disorders** Including Bronchial Asthma

**Inflammatory Eye Diseases** Affecting the Deeper Ocular Structures

**Skin Disorders** Notably Angioneurotic Edema, Atopic Dermatitis, Exfoliative Dermatitis, Including Cases Secondary to Drug Reactions, and Pemphigus

**Lupus Erythematosus** (Early)

**Addison's Disease**

**Inflammatory Eye Diseases**, Affecting the Anterior Segment

Ophthalmic Suspension of CORTONE Acetate, 2.5%  
—for treatment of the more severe indications and for initial therapy of any indicated condition that potentially might lead to permanent ocular damage.  
Ophthalmic Suspension of CORTONE Acetate, 0.5%  
—for more superficial and less serious indicated conditions and for continuing treatment in severe eye conditions after preliminary therapy with the 2.5% strength has achieved the desired degree of improvement.

Ophthalmic Ointment of CORTONE Acetate, 1.5%  
—for use in conjunction with either of the ophthalmic suspension preparations, or alone, depending on the condition present; particularly useful for bedtime application.

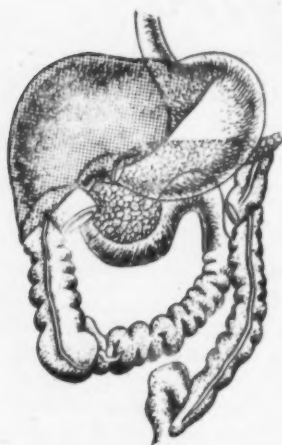
\*CORTONE is the trade mark for the Merck & Co., Inc. brand of cortisone. This substance was first made available to the world by Merck & Co., Inc. research and production.

## MERCK (NORTH AMERICA) INC.

161 Avenue of the Americas, New York 13, N.Y., U.S.A.

EXPORT  
SUBSIDIARY OF  
MERCK & CO., Inc.  
Manufacturing  
Chemists  
Rahway, N. J., U.S.A.

*Exclusive Distributor: MARTIN & HARRIS LTD.  
Offices in: Calcutta, Bombay, Madras, Delhi, Rangoon.*



# ENZYMES

**FOR IMPAIRED  
DIGESTIVE  
FUNCTIONS...**

ALZYME contains • PAPAIN  
• PANCREATIN • DIASTASE  
• VITAMIN B COMPLEX

## COMPOSITION

### ALZYME LIQUID :

Each fl. oz. contains :—

Papain	22 grs.
Pancreatin	11 "
Diastase	11 "
Thiamine Hyd. ( B <sub>1</sub> )	10 mgms.
Riboflavin ( B <sub>2</sub> )	5 "
Pyridoxine Hyd. ( B <sub>6</sub> )	1.5 "
Ca. Pantothenate	3 "
Niacinamide	50 "

### ALZYME TABLETS :

Each tablet contains :—

Papain	0.75 gr.
Pepsin	0.25 "
Pancreatin	0.5 "
Diastase	0.75 "
Thiamine HCL ( B <sub>1</sub> )	0.75 mgm.
Riboflavin ( B <sub>2</sub> )	1.0 "
Pyridoxine HCL ( B <sub>6</sub> )	0.25 "
Calcium Pantothenate	0.5 "
Niacinamide	10.0 mgms.

*Alzyme Liquid*—Bottles of 4 fl. ozs. & 1 lb.

*Alzyme tablets*—Bottles of 25, 100 & 1,000 tablets.



# ALZYME

ALEMBIC CHEMICAL WORKS CO. LTD., BARODA, 3.



For Oral  
Iron Therapy

**FERRONICUM**

Better absorbed and  
much better tolerated  
than any other  
oral iron preparation



SANDOZ LTD., BASEL (SWITZERLAND)

# FERRONICUM

FOR ALL IRON DEFICIENCY ANAEMIAS

BEST TOLERATED

BEST ABSORBED

of all iron preparations

Each sugar coated tablet contains 200 mg. ferrous gluconate.

97.4% of the bivalent iron in Ferronicum is ionised by the gastric juice, and is therefore ready for absorption.

Ferronicum does not produce gastro-intestinal disturbances.

Indications :

Any hypochromic anaemia (nutritional iron deficiency, pregnancy, lactation, acute or chronic blood loss, etc.).

Dosage :

Average 2 tablets three times daily.


Higher doses, which may be necessary in cases with disturbed absorption, are perfectly tolerated.

Packings :

40, 120, 500 tablets.



SANDOZ LIMITED, BASLE, SWITZERLAND.



Dr. A. WANDER S. A. BERNE-SWITZERLAND

# ASMAC

SYMPTOMATIC REMEDY FOR  
BRONCHIAL ASTHMA

Composition:

- Allobarbitone 0.03 gm.
- Ephedrine hydrochloride 0.015 gm.
- Caffeine 0.1 gm.
- Theophylline-ethylenediamine 0.15 gm.
- Extr. Ipecacuanhae 0.02 gm.

STOCKS ARE NOW AVAILABLE.

Sole Importers:

"WANDER" PHARMACEUTICAL DEPARTMENT

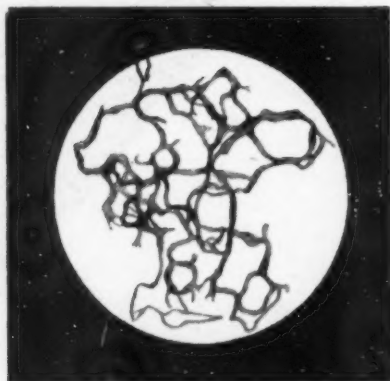
GRAHAMS TRADING CO., (India) LTD.,

P. O. Box 90.  
BOMBAY.

P. O. Box 147.  
CALCUTTA.

P. O. Box 1205.  
MADRAS.

*Serpentine growth characteristic of  
virulent human strains*



**A** ready and  
tested  
measure  
for combating  
tuberculosis

As therapeutically active as streptomycin, Crystalline Dihydrostreptomycin Sulfate of Merck & Co., Inc. is less toxic to the vestibular apparatus, minimizes pain and swelling on injection, and may be used even in some patients allergic to streptomycin.

This preferred product is available in dry powder form, in convenient one and five gram vials.

Para-Aminosalicylic Acid Merck & Co., Inc., when used in combination with Crystalline Dihydrostreptomycin Sulfate of Merck & Co., Inc. prolongs the effective period of antibiotic therapy by inhibiting or delaying the development of bacterial resistance.

## **Crystalline Dihydrostreptomycin Sulfate of Merck & Co., Inc.**

**MERCK (NORTH AMERICA) INC.**

161 AVENUE OF THE AMERICAS, NEW YORK 13, N. Y., U. S. A.

EXPORT  
SUBSIDIARY OF  
MERCK & CO., INC.  
Manufacturing  
Chemists  
Rahway, N. J., U. S. A.

*Exclusive Distributor: MARTIN & HARRIS LTD.,  
Offices in: Calcutta, Bombay, Madras, Delhi, Rangoon.*



For those who count the restless hours, 'Soneryl' brand butobarbitone will quickly promote a full night's sleep. 'Soneryl' is rapidly destroyed in the body and in the appropriate dose no headache or after-effects are experienced on waking so that the patient is ready to meet the coming day with renewed energy.

For insomnia associated with pain 'Sonalgin' brand butophen with codeine is recommended. It is particularly valuable in such conditions as neuralgia, dysmenorrhœa, toothache and arthritis.

**'SONERYL'**

trade mark brand

BUTOBARBITONE

Containers of 25 and  
500 x gr.  $1\frac{1}{4}$  tablets

**'SONALGIN'**

trade mark brand

BUTOPHEN WITH CODEINE

Containers of 25 tablets

**M&B BRAND**

**MEDICAL PRODUCTS**

Detailed literature is available on  
request

MANUFACTURED BY



**MAY & BAKER LTD**

M&B

DISTRIBUTORS:

MAY & BAKER (INDIA) LTD. BOMBAY • CALCUTTA • MADRAS • NEW DELHI • LUCKNOW • GAUHATI

---

*Chosen time and again after  
comparative tests —*

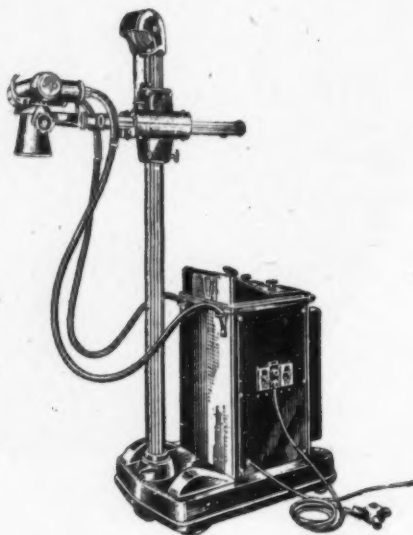
## **WATSON'S Mobilix**

### **WARD X-RAY OUTFIT**

The ample X-ray output of the "Mobilix" Ward Outfit, its fine focus Machlett tube, and refinements of electrical and mechanical design, have time and again proved its superiority beyond doubt.

The "Mobilix" is designed to withstand tropical conditions and will give many years of trouble-free service. Output 95 kV. at 40mA., 43 kV. at 60mA.

Manufactured by Watson &  
Sons (Electro-Medical) Limited,  
LONDON.



# **G.E.C.**

Please write for booklet No. 210 to:—

**THE GENERAL ELECTRIC COMPANY OF INDIA LTD.**

Magnet House, Chittaranjan Avenue, Calcutta 13

Branches at: Bombay Madras Kanpur Delhi Bangalore Coimbatore Secunderabad

(Representing: THE GENERAL ELECTRIC COMPANY LTD. OF ENGLAND)

Also represented in: Karachi Lahore Chittagong Rangoon

---



# The Antiseptic

A Monthly Journal of Medicine and Surgery

Published on the 15th of every month.

Founded by the late Dr. U. RAMA RAU in 1904.

Editor: U. VASUDEVA RAU, M.B., B.S.

Editorial & Publishing Office: 323-24, Thambu Chetty St., Madras-1.

Annual Subscription: Rs. 7-8-0: Foreign—Rs. 10—Post Paid.

Vol. 50

FEBRUARY, 1953

No. 2

## Original Articles

### FACIAL PARALYSIS AND ITS TREATMENT\*

LT. COL. P. V. KARAOHANDANI, M.B., F.R.C.P., I.M.S. (std.),  
Salisbury Park, Poona 1.

WITH the increase in the frequency of facial paralysis in recent years, physical therapy has also made considerable advances.

The anatomy, the varieties of facial paralysis, and the probable causes operating at various stages will be dealt with in this article. The facial muscles can be paralysed as a result of lesions in the supra-nuclear, nuclear and infra-nuclear regions. These lesions produce a symptomatology which at once clears the field of affection. It is important therefore, to know all this, because failure to treat with vigour, carries untold penalties; "a victory is twice itself if the achiever brings home full numbers."

#### Anatomy of the Facial Nerve

I. Intra-cerebral portion.—1. *Supra-nuclear part*:—Cortical centre for face lies at the lower end of the ascending frontal convolution. Nerve fibres then pass through the internal capsule (hence the frequency with which the lower half of the same side of the face is affected in hemiplegia). After crossing to the opposite side in the upper part of the pons (hence paralysis of the opposite side of the face occurs in crossed hemiplegia), facial fibres arborise around the nucleus of the nerve.

2. *Nuclear part*:—The nucleus of the nerve is situated in the floor of the fourth ventricle beneath eminentia teres. Its lower

\* Specially contributed to THE ANTISEPTIC.

end is close to the XIIth nerve nucleus (hence the close association between the muscles of the lips and the tongue). The upper end of the nucleus is close to the VIth nerve nucleus (hence diplopia with facial paralysis occurs when the lesion lies in this area).

3. *Infra-nuclear part*:—These fibres wind round the nucleus of the VIth nerve and then emerge at the lower end of the pons as they pass to their superficial origin.

II. Extra-cerebral, **but** intra-cranial portion.—1. *Meningeal part*:—The nerve then passes to the internal auditory meatus and while doing so, it is accompanied by the VIIIth nerve (hence deafness occurs when the nerve is involved in this region).

2. *Temporal part*:—At the lower end of the internal auditory meatus the nerve swells into the geniculate ganglion, gives three important branches, and enters the facial canal—the aqueductus fallopi. Here it curves over the foramen ovale, on the inner wall of the tympanum and passes down and out through the styloid foramen. It is accompanied by the chorda tympani (hence taste disturbances occur when the nerve here is involved). Chorda tympani contains taste fibres from the tip and the anterior two-thirds of the margin of the tongue. Chorda tympani pierces the canal  $\frac{1}{4}$ th inch above the stylomastoid foramen, joins the facial nerve and passes through the facial canal to end in the geniculate ganglion. Thence onward through the pars intermedius of the facial nerve, it passes to the sensory nucleus "tractus solitarius" of the facial nerve which is connected with uncinat gyrus. During regeneration, if the lesion be proximal to the geniculate ganglion, some secreto-motor fibres which formerly ran into chorda tympani, become diverted into the great superficial petrosal nerve, thus reach the lachrymal gland, so that eating or even the sight of food brings about increased lachrymation. This is called "the crocodile-tears-phenomenon". The nerve to the stapedius muscle branches off from the facial nerve in the aqueduct fallopi, and pierces the tunnel to supply the muscle. Thus, infection from the middle ear may travel to the nerve in the facial canal through these two piercings of the chorda tympani and the nerve to the stapedius.

III. Extra-cranial portion.—Traversing through the parotid gland, it breaks up into two main terminal divisions, (1) temporo-facial to the muscles of the upper half of the face; and (2) cervico-facial to the muscles of the lower half of the face, platysma, posterior belly of the digastric and the mylohyoid. (This is shown in Chart I, *vide* page 83).

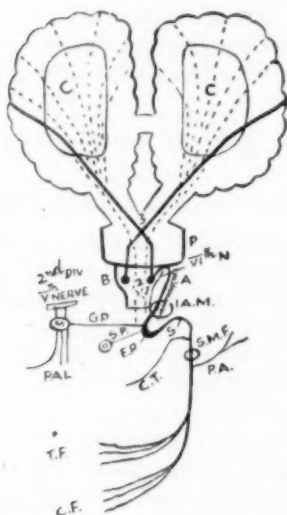
#### Clinical Varieties of Facial Paralysis

It will be seen from the above that the lesion may be in the brain, *i.e.*, supra-nuclear, in the nucleus, and below the nucleus; *i.e.*, infra-nuclear.

I. Supranuclear type.—1. *In the internal capsule*:—This is common and is associated with hemiplegia on the same side.

2. *In the pons*:—This is rare and is associated with crossed hemiplegia, because facial fibres cross in the pons whereas the pyramidal fibres cross below, in the medulla.

CHART I.



## FACIAL NERVE

- 1.—Nucleus of facial nerve.
- 2.—Above pyramidal decussation.
- 3.—Above facial N fibres decussation.
- C.—Cerebrum.
- P.—Pons; B.—bulb. A.—auditory nerve.
- I. A. M.—Internal auditory meatus.
- G. P.—Great petrosal nerve.
- S. P.—Superficial petrosal nerve.
- E. P.—External petrosal nerve.
- M.—Meckle's (sphenopalatine) ganglion.
- O.—Otic ganglion.
- S.—Nerve to stapedius.
- C. T.—Chorda tympani.
- S. M. F.—Stylomastoid foramen.
- P. A.—Post-auricular nerve.
- T. F.—Temporo-facial branches.
- C. F.—Cervico-facial branches.
- Pal.—Palatine sensory nerves.

In supra-nuclear lesions, the upper half of the face is not paralysed, because these fibres escape destruction. In this lesion muscular power is restored speedily and there are no electrical changes. The cause is usually vascular hæmorrhage.

3. *Nuclear*:—This lesion is rare. Owing to the proximity of the VIth nerve there is diplopia. Atrophy and marked reaction of degeneration (R.D.) occur early. The cause is usually inflammatory—ascending anterior poliomyelitis, diphtheria, disseminated sclerosis and tabes dorsalis.

4. *Infra-nuclear*:—These lesions give rise to paralysis of all the facial muscles of one side but the symptoms vary with the precise location of the lesion; this may be:—

(a) *Intra-cranial meningeal*, when it involves the VIIIth nerve with consequent deafness. The taste is normal because chorda tympani has left at the level of geniculate ganglion. The cause is tumour or gumma.

(b) *Intra-aqueduct fallopi* (Bell's Palsy—Cawthorne, 1952) lesion is common. There is complete paralysis of all the muscles. The onset is sudden. R.D., and wasting appear in the course of a week or two. Owing to the involvement of the chorda tympani,

the taste at the tip and side of the tongue is lost[which is pathognomonic of aqueduct-lesions. There may be paralysis of the stapedius muscle, owing to involvement of the nerve to the stapedius and then there is hyperacusis. The cause is disease of the middle ear, the infection spreading to the facial nerve in the aqueduct.

(c) *Extra-cranial (Bell's paralysis)*:—This causes paresis of all the facial muscles, which is usually incomplete and recovery ensues in a short time. There is no R. D. but some diminution of faradic reaction occurs. There is no loss of taste, unless the inflammation spreads upwards into the aqueduct. The cause is neuritis, rheumatic or otherwise.

Since *Bell's Palsy* is the commonest kind of facial paralysis, I shall deal with it in greater detail.

**ÆTIOLOGY**:—Virus has been incriminated, but proof is lacking.

**PATHOLOGY**:—Terence Cawthorne (1951) has shown by actual dissection of the nerve in the Fallopian canal that the pathological condition is the same in all i.e., neuritis. Above the constriction, the nerve swells out beyond the confines of the sheath. Some hæmorrhagic streaks run longitudinally. In long standing cases of paralysis, the nerve is reduced to a shrunken and reddened strand adherent to the sheath.

**Onset**:—Since the nerve is blocked by increased pressure within the bony canal there is pain. Also there is inflammation or vascular reaction in the vicinity which usually starts with an aching pain in the mastoid region. Draught is a precipitating factor. If taste is involved then the lesion is above the stylomastoid foramen. There is some sagging of paralysed muscles, but this depends largely on the patient's habits, as regards his facial expression. Much-used muscles sag most.

**Clinical course**.—1. *Pressure palsy*:—This comprises of 80% of cases. There is a reversible block. Recovery begins in 2 to 4 weeks and is complete in 8 weeks. There is a transient block of the facial nerve. There is no nerve-degeneration and response to 1 m. Sec: (F) is preserved.

2. *Degeneration palsy*:—This comprises of 20% of cases. The block is irreversible and recovery occurs by regeneration and is incomplete. It begins in 2 to 4 months and the maximum results are achieved in 9 months. There is degeneration of the facial nerve and typical Erb's R.D. is obtained. Associated or mass movements are an inevitable consequence; the disfiguring effect may be slight, but the cosmetic defect is great. Crocodile-tears phenomenon has already been mentioned and explained. The extent of sagging depends upon the habits of the patient as regards his facial expression. Much used muscles sag most, hence the importance of placid expression. There is a slight shortening of the paralysed muscles before they are actually re-innervated.

The electric reactions which occur in the nuclear and infra-nuclear lesions, i.e., lower motor neuron paralysis may next be enumerated.

First 2 days:—There is increased electrical reaction to both the faradic and galvanic currents.

2 to 12 days:—No faradic reaction (unless regeneration takes place). No galvanic reaction at all. After this for some weeks: Galvanic reaction is restored and Erb's R.D. is met with in its typical form which consists of:—(a) no muscular contraction at all to faradic current; (b) quantitative increased reaction to galvanic current in all forms; (c) galvanic contraction is sluggish (whereas in health it is prompt and sharp); and (d) qualitative galvanic changes viz., A.C.C. is equal or greater than K.C.C. (in health K.C.C. is greater than A.C.C. Two to three months later—Galvanic contractibility disappears (unless regeneration is stabilised).

In regard to prognosis, it may be said:—*Faradic excitability*—If retained, even though slight and with very strong current—hopeful. If it is quite lost for a few weeks, prognosis is still hopeful. If it remains totally lost for several months there is little hope.

*Galvanic excitability*:—If R. D. is incomplete, the prognosis is still hopeful inspite of the noticeable atrophy.

In my experience—if electrical changes are slight in the second or third week—recovery can be promised; if faradism is lost for three months, recovery becomes doubtful and if faradism is lost for six months, the chances of recovery become nil.

TREATMENT:—This should start as soon as possible because muscular atrophy takes place in the early stages of denervation. The principle is the same as that of other damaged lower motor neurones *plus* special considerations because the facial muscle is unique, in that there is no agonistic contraction with antagonistic relaxation; bilateral muscles contract simultaneously in normal expression.

Physical therapy.—The object is to minimise muscular atrophy which follows facial nerve damage. This consists of:—

1. Immobilisation:—Effect of motion in the involved muscle. Facial expression is a reflex action of great complexity involving the highest cortical centres. Like other voluntary muscles, mimetic muscles are kept in a state of tonus, ready to contract. This tonus varies in intensity with the attention of mind, (Huber, 1931), and both sides of face contract together. If the muscles on one side, are paralysed, they get pulled towards the involved side. This stretching is harmful. Eisenhower and Key, (1945) have shown that atrophy from disuse is severer in stretched muscles than in those kept relaxed or in neutral position. Therefore, avoidance of facial movements i.e., talking through the teeth and maintaining a poker-face



are necessary. Mechanical aids *e.g.*: A sling consisting of two adhesive tapes is also helpful in stopping epiphora and loss of orbicular tone by drag of cheek muscles. Starting at the zygoma below the eye, one tape passes across the space between the inner canthus of the eye and nose, on to the forehead. The other starts at the same place crossing the first below the eye, then on to the outer-side of forehead. The lower lid and face are pulled up before the strips are fixed to the forehead so as to avoid irritation. The tapes may be removed at night.

2. Heat:—Muscles function better when warmed (Asmussen, and Bojeo, 1945). In denervated muscle there is circulatory stasis, blood vessels become dilated and R.B.C. and W.B.C. collect outside them. Heat produces hyperæmia and counteracts this circulatory deficiency. Radiant heat for 20 minutes once a day is recommended as a preliminary to other therapy.

3. Electricity:—Immediately the patient is seen, stimulation by interrupted current (having square-wave-form), the active electrode being the cathode, is applied daily, using an automatic interrupter. One hand transfers the stimulating electrode from muscle to muscle and holds it in position during several contractions while the other regulates the potentiometer, in order to obtain a vigorous, muscular contraction, with minimal current. For muscle stimulation a 25 cycle sinusoidal current daily, is considered best.

4. Reflex stimulation:—There is a reflex pathway between the trigeminal and facial nerves *via* the cortico-bulbar tract, lateral trigeminus, medial lemniscus and spinothalamic tracts. Blue pencil effluve from a static machine evokes reflex action contraction in the muscles of the affected side. Even though visibly voluntary movements are absent, there still exists some contractable muscle and advantage is taken of this fact.

5. Exercise:—Active exercise, for a poorly functioning muscle which is capable of contraction, and has a neural pathway to it, is the best form of physical therapy, provided symmetrical contraction on the normal side does not involve a disproportionate pull which stretches the weaker muscle on the affected side. No such danger exists with the forehead and eye muscles but in the case of the nose, cheeks, lips and chin, there is a real danger of stretching the weak muscles, which may be avoided if necessary by manually restraining the muscles of the normal side. Exercise several times a day, in front of a mirror and in certain positions is recommended. For example, the movements of orbicularis oculi are best affected while the patient is in the supine position, those about the mouth by swallowing hard'. While the patient talks, the movements about the mouth should be observed. These movements may not be obtainable on request. That the exercise given is not inadequate, that the symmetrical character of these



contractions is not lost, that no disproportionate growth of muscles occurs and that no faulty habit-patterns develop, are all important points to be vigilantly watched.

6. Massage:—Very mild pressure, applied to the paralysed muscles *e.g.*, effleurage, avoiding deep pressure over bony surfaces is used with advantage.

7. Other precautions:—Avoidance of eye-strain involved in reading books and seeing cinema motion pictures, and of excessive talking which needs the constant use of the facial muscles, some preoccupations to bolster up *morale*, wearing coloured glasses when there is ectropion and washing the eye with 2% boric lotion, chewing on either side by pulling the involved cheek upwards towards the ear with one hand to prevent collection of food between the teeth and cheek are other measures to be remembered. It may be noted that during chewing the masseter and the buccinator muscles come into action and these are not supplied by the facial nerve and are therefore, functioning.

8. Psychic factors:—A dubious sense of comfort that the condition may clear up in 10 days, a diminution of the distortion, when the face is at rest, naso-labial folds coming up, lines developing under the eye and the lower lip, deepening of the corner of the mouth, slight contractions of various muscles are all objective evidences to which the patient's attention may be drawn to reinforce *morale*.

9. Medicinal therapy:—Antibiotics, Vitamin B, and intravenous soda salicylas are the drugs commonly employed. Since the author's contribution (Karamchandani 1928) has been original, it becomes necessary to stress that:—(a) the sodi salicylas used, should be chemically pure; (b) it should be dissolved in 10 c.c. of normal saline and boiled for  $2\frac{1}{2}$  minutes by the watch; (c) should be freshly prepared and injected slowly into the vein, and (d) the treatment should start at once *i.e.* on the very day of paralysis. The application of ultra-sound may be tried when palsy has continued for over several weeks and in anticipation of a visible contracture-formation.

*Sequelae and abnormal phenomena*:—The persistence of palsy for over 3 months may reveal associated movements of all muscles on the involved side, when an attempt is made to move one muscle or a limited number of muscles. Contractures, spontaneous muscle contraction, increased reflex irritability, gusto-lachrymal reflex (few tears from homolateral eye when gustatory stimuli reach the interior part of the tongue and auricular syndrome (redness of skin and sweating of area supplied by the auriculo-temporal nerve,) are other abnormal phenomena to be remembered. Since muscles which recover after denervation, develop some contracture, there is pulling of face to the paralysed side while at rest. Various causes of

contracture are assigned and one of these is continuing electrical treatment too long; therefore, (a) stop treatment when voluntary muscles show signs of returning (b) cultivate in the patient a placid and relaxed expression, because the over-use of certain muscles *e.g.*, screwing up of eyes or raising eye brows cause associated movements of muscles around the mouth, and over-exercise of these muscles more than those on the normal side.

**CONCLUSION.**—Patients receiving daily treatment during the first two weeks with heat and static brush and subsequently with interrupted galvanic stimulation recover more rapidly.

#### 10. Surgical treatment:—(a) Decompression operation.

The nerve is exposed in the Fallopian aqueduct and decompressed by incision of its sheath. The whole idea is to prevent nerve degeneration—Ballance and Duel (1932) have stressed its being done within two weeks, because normal regeneration begins in 8 weeks. Again the severer the pain the severer the lesion; therefore, where paralysis is complete and accompanied by pain early decompression is indicated. Findlay (1950) has stressed this point in his book. Terence Cawthorne (1951) also says, "in severe cases early exposure of the nerve where it lies swollen and compressed in the lower part of the body canal offers the best chance of recovery and function". Again the same author (1952) says "at present the most that can be said in the earliest stages is that where paralysis is complete, the chances of total spontaneous recovery are evenly balanced with the prospect of eventual partial recovery or none at all. Confirmation by electrical tests of the severity of lesion must wait for two weeks during which time irreparable damage may be done". The old teaching of doing decompression after 8 to 10 weeks is out-moded. Decompression is of value in reversible ischaemic block; therefore, the earlier it is done, the better. If fibrillation action potentials are absent or if motor units are obtained on insertion of the needle, operation is not indicated at all.

(b) In cases of permanent facial paralysis where reconstitution of the facial nerve is not possible and facial hypoglossal anastomosis is out of the question, plastic surgery offers the last chance. McLaughlin (1952) in his lecture on the 21st April 1952, in the Royal College of Surgeons, admirably stated the ease of static and dynamic support of surgical methods. This aspect is beyond the scope of this paper, but it is well worth study by plastic surgeons.

#### References:

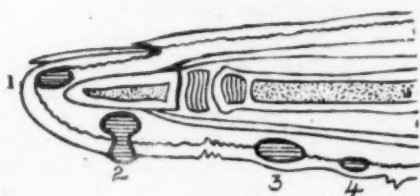
1. Aasmussen, E., Boje, O., (1945)—*Scandinav.* 10.1-1945.
2. Ballance and Duel, (1932).
3. Cawthorne, T., (1952)—*Lancet*, ii, p. 39.
4. Idem (1951)—*Ibid*, ii, p. 593.
5. Idem (1952)—*Ibid* ii, p. 40.
6. Eisenhauer, J. and Key, J.A., (1945)—*J. A. Arch. Surg.*, 51, 154.
7. Findlay, (1950).
8. Huber, T., (1931)—*Evolution of Musculature and Expression*, Baltimore Johns Hopkins Press.
9. Karamchandani, P. V., (1928)—*Ind. Med. Gaz.*, April.
10. McLaughlin, (1952)—*Lancet*, ii.

## ACUTE INFECTIONS OF THE FINGERS AND HAND\*

D. C. BANERJEE, B.Sc., M.B., B.S.,

Formerly House Surgeon, General Hospital, Madras, and Civil Hospital, Delhi,  
Popular Clinic, 66, La-Touche Road, Lucknow.

ACUTE infections causing inflammation of the fingers and hand, commonly known as Whitlow, are quite common among manual workers and housewives and are seen in daily practice.



Types of digital abscesses:—

1. Apical abscess.
2. Pulp abscess with "collar stud" extension.
3. Subcutaneous abscess.
4. Intracutaneous abscess.

(Taken from an article published in 'Lancet' by an Assistant Surgeon of Hand Clinic London Hospital).

The sulpha drugs and antibiotics have revolutionised the treatment of these and many other conditions. Surgeons, have now become more conservative in the use of surgical procedures for the treatment of acute infections of the fingers and hand. The usual practice in World War I, in treating cases of badly damaged and grossly contaminated and septic extremities, was disarticulation and amputation; whereas in World War II treatment was mostly conservative with only minor surgical operations where absolutely necessary.

Dr. David Bailey of the Surgical Unit of the University College Hospital, London reported on 1745 cases admitted to the Hand Clinic of the Hospital between 1st January 1949 and 30th April 1951 and has classified the various conditions met with in this fairly large series of cases as under:—

TABLE I

Condition	No. of Cases	Percentage to total
Acute paronychia	566	32.5
Chronic paronychia	63	3.5
Pulp abscess	270	15.5
Apical abscess	138	8.0
Web abscess	47	2.5
Cellulitis	141	8.0
Subcuticular abscess	94	5.5
Intracutaneous abscess	41	2.5
Subcutaneous abscess	251	15.0
Carbuncle	82	4.5
Erysipeloid	16	1.0
Miscellaneous	29	1.5
	1745	

\* Specially contributed to THE ANTHROPOLOGIST.

The above classification may be considered for all practical purposes to be scientifically sound, useful and rational. His "miscellaneous" group includes tenosynovitis and arthritis.

**Paronychia.**—This group is subdivided into acute and chronic types. Cases in which the infection has been present for more than a fortnight or where a fungus infection is the underlying cause, come under chronic paronychia. The term paronychia is used to denote an infection centred round the nail bed, either at the base or at the lateral gutters. There may or may not be definite pus formation, depending on the treatment adopted.

**Pulp abscess.**—This is in fact an affection of the pulp of the terminal segment of a finger and has been separated from the subcutaneous abscess of the proximal segment because of the special anatomical structure pertaining to the pulp space; the danger of involvement of the terminal phalanx is greater than in the case of subcutaneous infections of the proximal segments of digits.

**Apical abscess** is also a subcutaneous abscess but is located at the extreme tip of the terminal segment just distal to and above the tip of the ungual phalanx. The abscess when mature, points under the free edge of the nail. The main pulp space is not involved. The course of an apical abscess is shorter than that of a pulp abscess and is, as a rule, free from complications to which the latter is prone. The attached diagram will make the distinction clear.

**Web abscess.**—This is also a subcutaneous abscess of the loose tissues of the interdigital clefts (*i.e.*, the web), and usually points to the volar surface of the palm, and rarely to the dorsum.

**Cellulitis.**—Under this heading are included infections which start as a diffuse inflammation and resolve without abscess formation. Cellulitis as defined above, usually occurs on the dorsal surface of the hand and fingers.

**Erysipeloid** is a diffuse infection caused by a specific organism *viz.*, *erysipelotheirus rhusiopathiae* (of Rosenbach). This infection, though resembling a cellulitis, can be differentiated from the latter by its milder symptoms (itching and swelling are practically the only complaints), by the peculiar purplish red discoloration of the skin and by the precise demarcation of the inflamed area. This infection is usually found among butchers, fishmongers and housewives (Goodwin, 1950). I have no personal experience of this infection: penicillin is considered to be specific for this condition and its prompt response to penicillin is pathognomonic of the condition.

The above types of infections are the commonest met with in general medical practice. The following are also met with though occasionally; but they need more skill to treat and a clear working knowledge of the anatomy of the parts is indispensable.

1. Tenosynovitis of the index, middle and ring fingers.
2. Infection of the ulnar bursa, which is generally caused by an extension of the infection beginning from the tenosynovial sac of the little finger.
3. Infection of the radial bursa is generally an extension of tenosynovitis of the thumb, and is really an infection of the tendon sheath of flexor pollicis longus.
4. Thenar space infection is caused mostly by bursting of the infected tendon sheath of the index finger or by the transmission of infection direct through a punctured wound over this area.
5. The midpalmar (fascial) space infection, is usually caused by extension of infection from the sheaths of the 3rd and/or 4th. lumbrical muscles, the contagion having gained access through a prick or puncture over the webs between the middle and ring or between the ring and little fingers.

The salient points to be remembered about these deeper infections are:—firstly, that all these five types of infections are deep-seated and as such must be considered to be potentially serious and to be cases of surgical emergency. Therefore, the doctor attending

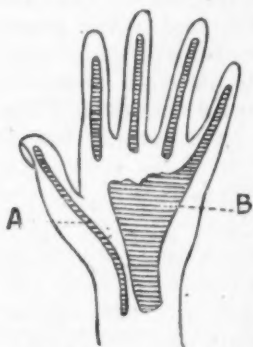


Diagram of synovial sheaths of flexor tendons of the wrist and fingers.

A. Radial bursa, or synovial sheath of flexor pollicis longus.

B. Ulnar bursa, or synovial sheath of flexors sublimis and profundus at wrist and extension to little finger.—(From Lee McGregor's "*A Synopsis of Surgical Anatomy*").

such cases, especially in rural areas with inadequate facilities at his command, would be wise to shift the patient without delay to the nearest hospital for proper care and treatment. The greater the delay in instituting treatment, the greater will be the risk in the restoration of the normal functions of the hand and fingers. Secondly, as all these inflammatory mischiefs are located deep into many important structures namely, the flexor tendons enveloped in their sheaths and the digital nerves and vessels, the operator should use his knife with meticulous care and precision. Thirdly, suppurative tenosynovitis of the thumb and little fingers carries a greater danger of spread of the infection beyond the hand (beneath the anterior annular ligament) to the forearm and also to the synovial sheath of either finger through an intercommunicating channel *via* the tendon sheath of the common flexors. According to several authorities, this intercommunication is present in 50 to 80 per cent

of persons. In rare instances, the tendon sheath of the little finger stops short at the head of the metacarpal bone as is the case with the middle three digits. Hence, while opening into the ulnar and



radial bursæ, one should be careful to ascertain the respective sacs, their limits and prolongations.

**TREATMENT:**—The principles which should govern the treatment are:—

- (1) Rest to the part during the diffuse stage of inflammation.
- (2) No operative interference until pus has formed.
- (3) Control of infection by suitable antibiotics.
- (4) Evacuation of the abscess by small incisions so planned as to afford the best drainage and to preserve the function of the part to the maximum extent possible.

**Rest:**—Except in the very mild infections, where the patient does not feel much pain or discomfort in letting the affected limb hang down, the hand and infected finger must be kept at rest preferably by a plaster-of-paris slab or by a piece of malleable, galvanised iron sheet bent and moulded to keep the hand in a "position of function". The "position of function" for the hand is usually dorsiflexion at the wrist and slight flexion at the metacarpophalangeal and interphalangeal joints. This will prevent wrist drop and provide rest to the fingers. In cases of tenosynovitis this splinting is of paramount importance both before and after operation; in the preoperative period the affected tendon or tendons are thereby immobilised, pain is relieved greatly and in the post-operative stage prolapse of the tendons is prevented. In addition, the forearm is supported in a sling and is elevated as high as possible towards the opposite shoulder so as to control œdema. This splinting is continued for a few days after operation if found necessary.

**Antibiotics:**—It has been found that 25 to 30 per cent of all types of infections of the hand and fingers met with in daily practice, resolve completely under penicillin treatment obviating the use of the knife, if the patient is put under treatment from the start of the inflammation. In the remaining patients the diffuse inflammation can be controlled easily and quickly and eventually a small abscess results. This can be opened painlessly, and cured with no complications, like stiffness and hard unsightly scars. Penicillin is now available everywhere and is within the means of even the poor. As staphylococcus aureus is the micro-organism commonly met with in most infections of the hand and fingers, penicillin is the drug of choice. This antibiotic is usually given as procaine penicillin, 3-4 lac units daily (i.e. every 24 hours), by intramuscular injection, till pus formation is stopped and the operated wound shows a healthy appearance. In severe infections like spreading cellulitis or deep seated infections with constitutional symptoms like fever, malaise etc. aqueous penicillin (5 lac units), is given eight-hourly by the intramuscular route, till the infection is controlled. In cases where the response to penicillin is not



satisfactory, streptomycin (1 mg. intramuscularly) or an oral antibiotic like aureomycin, may be used. But the cost of these drugs is prohibitive to most of our patients. Resistance to penicillin which is increasingly noted amongst the town dwellers who have had this drug previously, should be watched.

*Operation*:—Incision must not be made until there is evidence of localised pus. Usually in daily practice, particularly in rural areas, a doctor rarely comes across a case in the diffuse stage of inflammation, excepting those with intense pain and severe constitutional symptoms. In some cases, abscess formation is made obvious by visible pus under the thin, brownish white layer of epidermis, while in others, it can be located fairly accurately by finding out the maximum localised tenderness by testing with say, the tip of a closed pair of artery forceps. It will be wise to test the urine of the patient for sugar and albumin before undertaking the operation.

Local anaesthesia is ideal for opening abscesses located at the distal three-fourths of the fingers. For operations at the bases of the fingers and on the hand, local anaesthesia is quite satisfactory, provided the induction of "nerve block" of the median and ulnar and rarely the radial, just above the wrist is carried out. Even in the case of children and nervous women this method can be applied successfully by premedicating the patient with a barbiturate hypnotic preparation, combined, if necessary, with an analgesic or morphine derivative. Local anaesthesia is the method of choice for operations on the hand and fingers in many hospitals today, *e.g.*, at the Hand Clinic of the University College Hospital, London. Records of 1745 cases of all types of infections, do not reveal even a single case of serious complications attributable to this method. I have used this method in every case of hand and finger infection for the last 17 years and never had any occasion, to repent its use. The two outstanding advantages of this method over the general anaesthesia are:—(1) it can be induced by the surgeon working single-handed, and (2) it permits the operator to carry out his manoeuvre with no worry about his patient's life and without any hurry. In my opinion local anaesthesia is *par excellence*, the safest method to use in cases where such is permissible. The technique of local anaesthesia is as follows:—

**A. For incision on the distal three-fourths of the fingers**:—The affected finger together with the hand is cleansed thoroughly with turpentine, spirit, and lastly soap and water, mopped dry with sterile dry gauze and then with ether, and painted with 1 per cent solution of acriflavine in rectified spirit and acetone in the proportion of 9 to 1. The hand is then elevated for five minutes in order to empty the veins and a small piece of rubber tubing  $\frac{1}{4}$  inch in diameter is tied fairly tightly at the base of the infected finger. This will provide a bloodless field for operation. Now, a ring block

is performed at the base of the digit, distal to the tourniquet, by using 2% procaine solution in normal saline (without adrenaline), 1 c.c. for each digital nerve, on the two sides of the finger. Within ten minutes perfect anæsthesia is established and the operator can perform any operation over this area, slowly and steadily.

**B.** *In cases of infections of the hand and base of the finger:*—The median, ulnar and rarely radial nerves are blocked at the wrist with the same anæsthetic after applying and inflating a sphygmomanometer cuff around the upper arm as an ideal tourniquet. Recently a new local anæsthetic 'Xylocaine', (with adrenaline) in 2 percent strength has been used for wrist-block and found to be superior to procaine in its anæsthetic effect, the only disadvantage being the prolonged period during which the hand remains without sensation; 2 c.c. for each nerve trunk is satisfactory.

In cases where pus is visible under the epidermis as a grey, fluctuant mass (i.e. a septic blister), the incision is made over this, the whole separated and dead cuticle excised by strokes of the scissors and the raw area mopped with a view to find out any opening leading to the subcutaneous tissue underneath. The tract, if found, is explored with a probe-director and is laid open in the direction, parallel to the vessels and nerves as far as possible. The margins are pared away to ensure free drainage. Slough is removed by snipping with scissors, if necessary. In cases where no subcuticular pus is present, the incision is placed at a point where pus appears to be closest to the skin, in a longitudinal direction parallel to the digital nerves and vessels. The margins of the skin are pared away to make an oval opening.

My usual practice is to remove the tourniquet after the use of cutting instruments is finished and the part is fomented some 4 or 5 times by means of a pad of sterile gauze wrung out of hot, concentrated solution of mag sulph, kept ready for the purpose. By this fomentation two useful purposes are served: namely, to induce oozing of blood which helps in washing out the infection lying deep in the wound and to help stimulate the building up of a phagocytic barrier all around the localised abscess. This also helps to detect and ligature bleeding vessels, if there are any. Moreover, experience has shown that after-pains become much less with such fomentation. The wound is then cleansed with hydrogen peroxide which is a good hæmostatic for fresh capillary-oozing, mopped absolutely dry, dusted with cibazol-acriflavine dusting powder (or penicillin-lactose powder, if available) and ultimately plugged lightly with fine iodoform gauze. Modern surgery has discarded iodoform altogether and some also deprecate the use of plugging wounds. I have used both the new and the old methods and found that the latter method of fomentation and plugging lightly gave better results as regards quicker healing and less pain. Finally, the hand along with the affected finger is splinted properly.

*After-care* :—The patient is seen the next day (i.e., after 24 hours) for a change of the dressing. The affected finger together with the whole hand is dipped into a spacious and deep bowl containing warm-to-hot, concentrated solution of mag. sulph or common salt. The patient should be encouraged to agitate the fingers within this lotion. This is a time-honoured procedure, intended to restore movements to the fingers and hand much earlier than when the parts are not so moved even from the start. Ten minutes' fomentation is enough and will not sodden the skin and the wound, and will be found very soothing to the patient later. The wound is then cleansed with hydrogen peroxide, mopped dry, dusted with cibazol powder and dressed. Plugging should not be done any more. The dressing should not be disturbed for two days, and the patient should be warned against wetting the dressing. If the patient is on penicillin treatment, he must visit his doctor to take the injections daily till the wound becomes clean and healthy granulations have set in. In my experience, from three to six injections of procaine penicillin (4 lac units each time) once a day, are enough in most cases. Complete healing, that is closure of the wound with epithelialisation and restoration of normal function to the part, occurs within 8 to 15 days, usually. It is important that the patient moves his affected finger and hand daily till the wound heals up; otherwise stiffness of the fingers and wrist may result.

*Special points about the different types of infections* :—In *acute paronychia* the infection is subcuticular, subcutaneous extension being rare. In most cases seen in daily practice, pus is formed already, and this is evacuated by stripping off the nail fold at the base or at the lateral gutters.

*Pulp abscess* :—"Hockey stick" or "Horse-shoe" shaped incisions should not be made, as the wound then gapes too much and the unsupported pulp tissue falls back resulting in deformed pulp resembling a fused double finger. The most important function of the tips of fingers is, holding and recognising objects by feel (the tactile sensation) and this is affected by such operations. The abscess is opened at the spot, where it points best. Incisions should not be made in the stage of diffuse inflammation, nor should there be any delay in operating when pus has once formed. After evacuating pus and mopping the wound clean, the site is explored with a probe to find out if there is any necrosis of the bone underneath. In case of doubt arising at the time of the operation or later, if a sinus persists, a skiagram of the finger must be taken. The skin of the pulp is bound down to the periosteum of the terminal phalanx by fibrous strands passing through the subcutaneous pulp tissue; and the distal four-fifths of the ungual phalanx receives its blood-supply from the terminal parts of digital arteries which penetrate these fibrous trabeculae to reach the bone. Therefore, in case of inflammation within the pulp space, the danger of necrosis of the bone is

great, due to ischæmia brought about by compression of the arterial twigs by the inflammatory exudate.

*Apical abscess* is opened by excising a V-shaped wedge of nail overlying the abscess cavity and then a corresponding area of the soft tissue below is removed to form a diamond shaped opening. The abscess commonly extends down to the bone but osteitis is a rare complication.

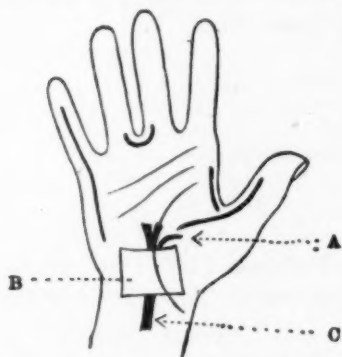
*Web infections* are often seen in the diffuse stage of inflammation with marked œdema of the dorsum of the hand. This œdema is reduced and the diffuse inflammation is localised to an abscess by proper splinting and penicillin treatment. When the infection is severe as evidenced by constitutional symptoms, the patient must be put to bed and the arm and hand suspended on a stand. This is the ideal procedure to reduce œdema and pain and to give comfort to the patient. Once localisation has occurred as evidenced by bulging in a web space with the maximum tenderness centred on it, the abscess is opened by a transverse incision made either at the base of the finger or the inter-digital space, wherever the abscess points most. The skin alone is incised first, and then the direction and depth of the abscess cavity are explored by means of a probe. The subcutaneous tissue is then cautiously incised guarding against injuring the digital nerves and vessels which are already pushed aside by the mass of pus and inflammatory exudate. The cut-edges of skin and subcutaneous tissues are pared away to ensure free drainage. The tourniquet is removed and the hand is immersed in warm, concentrated solution of mag. sulph or common salt. The rest of the management is as described above including the after-care.

*Carbuncles* are common at the dorsum of the hand and the proximal segments of fingers. Special points to note are:—that infection should be combated and controlled by means of penicillin injections and other suitable measures. Surgery should be restricted to removing the dead epidermis and slough that may have separated, by clipping them away. This can be done painlessly. Excision of the acutely inflamed skin and mass of subcutaneous tissue beneath, is not necessary; it might be harmful and might spread the infection. The patient's urine *must* be examined for sugar in all cases of carbuncle.

In *Erysipeloid infection* surgery is not indicated at all. Penicillin by injection, will clear up the condition within 3 or 4 days, although it is advisable to continue the injections for two or three more days in order to prevent relapse.

Acute tenosynovitis of the little finger. i.e., infection of the ulnar bursa, is a surgical emergency. As such the patient must be confined to bed, the hand along with the finger fixed on a dorsal splint with the wrist dorsiflexed and the fingers flexed slightly;

injections of crystalline penicillin, (5 lac units) eight hourly should be started as early as possible. The flexed position of the little



A. Twig from M. Nerve to the thenar muscles.

B. Transverse carpal lig.

C. Median Nerve.

Thick lines are the lines of incisions for deeper infections.  
(After McGregor's 'A Synopsis of Surgical Anatomy').

finger, any slight attempt to extend the finger causing excruciating pain and the swelling localised on the ulnar side of the palm help to arrive at the correct diagnosis. The doctor should act promptly without waiting for signs of localisation to develop, as otherwise irreparable damage may set in on the tendon sheath. Incision should be made over the volar surface of the little finger a little to the ulnar side of the midline, across the interphalangeal creases, if necessary. On opening into the synovial sheath, mild but firm pressure is applied over the hypothenar eminence, and if purulent discharge wells out of the opening, the incision is extended carefully proximally along the groove of a director slipped upwards through the rent

below. This method will eliminate the danger of cutting beyond the proximal limit of the synovial cul-de-sac which is met with, though not often. In cases of normal disposition of the ulnar bursa the incision should extend upto the proximal transverse palmar crease. After-care is the same as detailed already, special care being taken to put on the dorsal splint till the wound has healed up completely.

Acute tenosynovitis of the thumb:—i.e., infection of the radial bursa, is also a surgical emergency and should be treated on the same lines as mentioned above. The incision is made from the middle of the volar surface of the thumb, opening into the synovial sheath and cautiously extending the incision upwards to the thenar eminence and stopping positively at a point  $\frac{1}{2}$  inch distal to the lower wrist-crease to avoid cutting the branch of the median nerve which crosses at this point the tendon sheath of flexor pollicis longus to supply the muscles of the thenar eminence.

Abscess in the *thenar space* is opened from the dorsum of the hand a little to the radial side of the metacarpal bone of the index finger. Hilton's method of emptying and draining pus should be followed in order to avoid damaging the vessels and nerves.

Mid-palmar space infection: is drained by opening into the web-space between the middle and ring fingers or, rarely, between the middle and index fingers. After incising the skin in the usual



transverse manner subcutaneous tissue is cut through and a pair of sinus forceps is thrust deep along the lumbricals into the abscess cavity, when pus wells out. Skin margins are pared away to ensure free drainage. Aftercare must be on the usual lines.

#### References:

1. Bailey, D.—*Lancet*, 25.1.1952.
2. Bailey, H.—*Emergency Surgery*, Vol. II.
3. Mc.Gregor, L.—'A Synopsis of Surgical Anatomy'.

### ACTH and Cortisone in Treatment of Complications of Leprosy

The chemotherapy of leprosy with sulphone is now being widely practised with good results. The thiosemicarbazones are being used with promising results. Certain complications of leprosy are however, difficult to treat and may be aggravated or precipitated by chemotherapy, rendering the treatment of the underlying condition difficult. The complications of leprosy usually are:—Sulphone dermatitis, acute leprous nephritis, acute leprous eye inflammation lepromatous reaction etc. Dr. Lowe, Specialist of the Nigeria Leprosy service treated 38 cases made up as follows:—Sulphone dermatitis 4; acute neuritis 8; acute leprous eye inflammation 7; lepromatous reaction 16; tuberculoid reaction 1; leprous elephantiasis; acute leprous arthritis 1. In all 4 cases of dermatitis cortisone was given 100 mg. 12 hourly for 2 days, 50 mg. 12 hourly for one day and then stopped. The response was, in all cases dramatic. In the 8 neuritis cases short courses of ACTH or cortisone were given with very good immediate response; in 4 of them there was recurrence and further treatment with cortisone or ACTH was of no avail. Of the seven cases of eye inflammation, three had ACTH by injection and 4 had cortisone eye drops. All the 3 treated with ACTH showed a good early response with lessening of pain and reduced inflammation in 24 to 48 hours. The symptoms returned a few days later, but a repetition of the treatment yielded good results. The other 4 cases of eye inflammation were treated with cortisone eye drops, every hour by day and less by nights. All responded well to treatment. Hormone treatment of leprous eye inflammation is really of great value, and the local application of cortisone is the method of choice; In 16 cases of acute lepromatous reaction, the acute symptoms disappeared rapidly under hormone treatment given for 2 or 3 days. In 12, symptoms recurred and repeat-courses aggravated the condition. Hormone treatment of lepromatous reaction is therefore, contra-indicated as it does more harm than good.

While the acute manifestations of leprosy can be readily controlled by hormone treatment, there is a grave danger of aggravating the underlying disease, particularly in those receiving repeated short courses of treatment and even of aggravating the very symptoms. The two complications in which small doses of hormones are able to do good are:—(1) Sulphone sensitivity with drug fever, dermatitis and hepatitis, and (2) acute and subacute leprous eye inflammations in which the local use of cortisone appears to be effective and safe. Apart from these 2 complications, the use of hormone treatment of leprosy is contra-indicated. —Lowe, J., *Br. Med. Jour.*, 4-10-1952).



# THE TUBERCULIN TEST— ITS NATURE, SPECIFICITY AND SIGNIFICANCE\*

K. VENKATA RAMAN, M.B., B.S., T.D.D. (Madras).

AND

P. D. KANNIVELU, M.B., B.S., T.D.D. (Madras),

*Assistant Surgeons, Government Tuberculosis Institute, Egmore, Madras-8.*

**Introduction.**—With the introduction of the BCG campaign all over India in the official year 1948–49, the tuberculin test has become an important screening method to separate the positive from the negative reactors who are given the BCG vaccination. A summary of the present status of tuberculin and the test associated with it, will be given in this article.

When in 1906, Von Pirquet coined the word “Allergy” to denote “the changed or altered reactivity of the body caused by the introduction of living organisms or inanimate substances”, it was apparent that there was a difference between the large incidence of tuberculous infection with the resultant allergy to tuberculin and the disease process which was largely a re-infection tuberculosis in adults. It was then found that not only the skin but all the tissues of the body exhibit hypersensitivity as a result of infection and the different types of tuberculin tests were based on this knowledge.

**The nature of tuberculin and its reaction:**—Koch's Old Tuberculin (O.T.) was a concentrated and filtered culture of dead bovine tubercle bacilli, grown in glycerine broth. It was a complex and confusing mixture of dead germs, extracts of their cell bodies, metabolites of their growth, and the proteins of the culture medium. Koch considered that the active principle of tuberculin was protein in nature. So attempts to isolate the protein were made ever since the discovery of O.T. Florence Seibert and her colleagues isolated the purified protein derivative (P.P.D.) in 1934, by growing the bacilli in the synthetic medium of Sauton, a chemically well-defined non-protein medium. Tuberculo-protein by itself is non-toxic, but its combination with polysaccharides, nucleic acids, and lipoids as in Old Tuberculin is very toxic. Adopting the modern physico-chemical methods of ultra-centrifugation, diffusion, isoelectric precipitation, dialysis at different pH levels, and electrophoresis, Seibert further purified the P.P.D. and stated that the skin-reacting-potency in tuberculin was solely due to the proteins of low molecular weight. Seibert is still engaged in further purification of P.P.D.

Koch observed that in adequate doses, old tuberculin gave the following reactions in tuberculous animals:—(1) In guinea-pigs, an

\* Specially contributed to THE ANTISEPTIC.

adequate dose killed the animal, as a result of tuberculin shock. (2) In other tuberculous animals, one or more of the following reactions were seen depending upon the dose: (a) local reactions at the site of injection, like induration, erythematous flare, ulceration, and necrosis, attaining their maximum intensity after 48 hours; (b) focal reactions around the site of the tuberculous focus as perifocal hyperæmia, exudation of serum and cells etc.; and (c) systemic reactions, like fever, chills, body-aches etc.

Koch believed these reactions to be due to a summation effect; but such reactions failed to appear in persons with old arrested lesions. Von Pirquet in 1906, formulated the presence of some antibody-like substance in tuberculous individuals which reacted with tuberculin to form a toxic substance. Working on this hypothesis, some workers isolated what they called "tuberculolysins" in the blood serum which reacted with tuberculin. Others failed to isolate this lysin and further, a passive transfer of tuberculin reaction was not possible. So this humoral concept was soon forgotten. The theory of increased permeability of vascular endothelium and cells of tuberculous focus, liberating some toxins formulated by Peterson and Levinson explained only the physiological action of tuberculin but not the complete mechanism of tuberculin reaction.

Rich and Lewis have made a most useful contribution about the nature of the tuberculin reaction. Using tissue cultures from tuberculous animals, they showed that the nature of the tuberculin reaction was mostly cellular and *not* humoral. Isolated washed cells of tuberculous animals suspended in normal plasma reacted vigorously to tuberculin. Later, the tuberculin type of allergy was found to be peculiar in its nature and to differ from the immediate hypersensitive reaction due to serum, pollen or other proteins. The following table gives the essential characteristics of each reaction since the question is often asked of us by medical men whether tuberculin, being a protein, will not produce serum shock.

No.	Serum type of hypersensitive reaction	Tuberculin type of hypersensitive reaction
1	Immediate manifestation after test injection	Usually 48 to 72 hours elapse before reaction manifests itself.
2	Reaction-disappears within a few hours.	Reaction persists for days and even weeks.
3	Closely related to humoral antibodies and can be transferred passively by the serum of hypersensitive animal.	Related to cellular immunity and cannot be transferred by the serum of the animal. Can be produced only by the formation of tuberculous tissue in the body by living bacilli
4	No morphologically significant lesions seen in the hypersensitive animal.	Tuberculous tissue present in the body.
5	Anaphylactic shock produces a drop in temperature.	Tuberculin-shock causes a rise in temperature.

The manifestations of the two types of allergy, though different, are in essence the result of the same phenomenon. Pioneer considers that both are produced by an antigen, both are highly specific and both are probably of the nature of antigen-antibody reactions. In the one the antibody is found in the serum while in the other it is bound to the cells.

Antigens can provoke antibodies in an animal and also react with them. To be called antigenic, a substance should cause an animal to produce antibodies. Both in the old tuberculin and in the P.P.D., the proteins are denatured by heating and are not therefore, antigenic. They have no action in non-tuberculous individuals even in large doses, indicating they have no primary toxicity. But the non-denatured proteins of the tubercle bacilli, are capable of producing in non-tuberculous animals, specific humoral antibodies which are capable of producing anaphylactic shock or the local Arthus' phenomenon. Dienes and Mallroy, studying the histology of the local tuberculin reaction observed a slow and relatively persistent mono-nuclear infiltration whereas in the anaphylactic type of hypersensitivity, polymorphs predominated. Pollis found in tuberculous animals, polymorphs to predominate in the first nine hours, after the injection of tuberculin. In other words, the tissue response in the local reaction to tuberculin was similar to the response to tubercle bacilli, without however, its caseation part.

P.P.D. is the purest tuberculo-protein so far obtained, consisting of smaller molecules free from the toxic contaminants. In our experience extending over more than 100,000 tests using tuberculin in the ordinary doses, no focal or systemic reactions were noticed.

*Various methods of tuberculin tests:*—The following are the different tests used:—

- (1) Percutaneous test *e.g.* Moro's Patch test (1907).
- (2) Cutaneous test *e.g.* Von Pirquet's test (1907).
- (3) Intra-cutaneous test *e.g.* Mantoux's test (1908).
- (4) Sub-cutaneous test: used by Koch, Escherich and others.
- (5) Ophthalmic test *e.g.* Calmette's test.

The sub-cutaneous and ophthalmic tests have since been discarded because of their very severe reactions.

*The patch test:*—An ointment containing tuberculin and anhydrous lanoline is widely used even now for children under 12 years of age in Europe. A minimum of three papules must be present at the end of 48 or 72 hours to declare that a child is tuberculin positive. Ranganathan however, found this ointment to be unsatisfactory for Indian children as it gave positive results only in about 60% of Mantoux positives.

*Von Pirquet test*:—Scarification is done on the skin of the forearm over a drop of pure tuberculin or tuberculin mixed with adrenaline. This test does not require a dilution of tuberculin, syringes or needles and is still used by many.

*Mantoux test*:—This is a quantitative test and so has found favour with many; injections are made intradermally on the flexor surface of the forearm, varying doses being present in 0.1 c.c. The reactions are read on the 3rd or 4th day, but never earlier than 48 hours. Infiltrations of 6 mm. and above are taken as Mantoux positive, meaning that the individuals are allergic to tuberculin. An erythematous flare is not taken into account.

*Fluctuations of the tuberculin reaction and its specificity*:—At various times, the specificity of the tuberculin test has been challenged. It has been known for a long time that variations occur in human sensitivity to tuberculin. In 1892, Escherich observed the loss of tuberculin allergy among those suffering from miliary tuberculosis. It was later evident that there was a latent period of 6 to 8 weeks after the entry of the bacilli in the primary infection, before the skin allergy developed. This is the pre-allergic phase when tuberculin will not produce any reaction. Recent studies by various workers have shown that there are a number of conditions in which the allergy in a tuberculous individual is decreased for a temporary period, but that even during this period higher concentrations of tuberculin will elicit the hypersensitive reaction.

A false negative reaction may occur in the following conditions:—(1) Intervention of tuberculous meningitis, miliary tuberculosis and tuberculous cachexia. (2) During and for a short period after an attack of measles, whooping cough, influenza, pneumonia, secondary syphilis, cirrhosis of the liver, icterus, leukaemia and diphtheria. (3) During the course of radiotherapy, general anaesthesia, small-pox, and typhoid vaccination and ACTH therapy. (4) During pregnancy. (5) In extreme types of cachexia due to starvation and other diseases.

During the last two decades, it has become evident that there is a possibility of the primary focus of infection healing, in the course of years, and becoming sterile, reverting the allergic individual, back to the original anergic state. Such a reversion from a positive to a negative state has been observed by many workers. It is not definitely settled even now, on what factor, the maintenance of tuberculin allergy depends. For its production living bacilli (e.g. BCG strain or Trudeau's R<sub>1</sub> strain) and the formation of tuberculous tissue are essential. Dahlstrom observed that the originally weak sensitivity faded in the course of years. Aronson observed an increase in the tuberculin sensitivity of the BCG vaccinated persons in contact with tuberculosis cases. For a long time many workers have observed greater intensity of the tuberculin reaction among contacts. Our experience has been the same in

this respect. Tukey, Dufour and Seibert observed fluctuations from positive to negative among student nurses. From these and other similar observations, the following conclusions would appear to be justifiable:—

(a) The disappearance of allergy in a considerable number of persons is due to slight infection and recovery.

(b) The greater intensity of the reactions among contacts is due to the constant stimulation of the allergy by repeated infections.

(c) The maintenance of tuberculin allergy is dependent upon repeated super or re-infections.

Aronson has observed fluctuations in the reactions due to seasonal conditions and geographical areas. There is thus a decrease in the intensity of reactions during summer months. But the greatest blow to the reputation of the tuberculin test came when Lumsden *et al* working in certain areas of the southern states of America, found pulmonary calcification, believed to be due to tuberculosis, with a negative reaction to tuberculin. He therefore, concluded that the tuberculin test was of questionable value in ascertaining the rate of tuberculous infection. Olson and his colleagues working in Ohio, found pulmonary calcifications both among the positive and the negative reactors and their attempt to link the cause with the high incidence of ascaris infection in that area proved futile. Recently we have come across increasing evidence which shows that such pulmonary calcifications are due to fungus diseases like Histoplasmosis and Coccidioidomycosis caused by the specific organisms *viz.*, *Histoplasma capsulatum* and *Coccidioides immitis*. This discovery is considered by Long, as a triumph of epidemiological research, when he says "Confidence in the specificity of the tuberculin reaction not only recovered lost ground but emerged to a higher level than before". All doubts regarding the specificity of the tuberculin test have not yet been cleared. What is the significance of low intensity reactions to high doses of tuberculin? Are they specific of tuberculous infection? It has been a common experience that the use of the higher doses of tuberculin, bring more people into the positive group. Evidence to show that such reactions are non-specific in nature, is now forthcoming. According to Long, there is acceptable experimental evidence to indicate that inoculation of acid fast saprophytes, acid fast bacilli of cold blooded animals and other types of para-tubercle bacilli will sensitise animals to tuberculin.

For about two years after the starting of the BCG campaign in India, two doses of P.P.D. were used for the Mantoux test. If an individual was negative to one tuberculin unit, (*i.e.* 1 T.U. = 0.00002 mg. of P.P.D), 10 T.U. were used (*i.e.* 0.0002 mg. PPD). But the ideal practical tuberculin test must satisfy certain conditions in an extensive campaign. Ranganathan lists them as



follows:—(1) It should be simple. (2) It should involve the minimum number of visits to the community. (3) It must not cause severe local or general reactions. (4) It must not cause non-specific reactions. (5) It must detect the maximum number of infected persons. Beginning from August 1950, the International Tuberculosis Campaign has advised the adoption of a single-dose-method using 5 T.U. i.e. 0.0001 mg. PPD for the Mantoux test.

Significance of the tuberculin positive reaction.—A positive reaction means that the individual has gone through a primary tuberculous infection and no indication is given whether or not there is clinical tuberculosis. A negative reaction means that the individual has not so far had the infection. The evidence we have is not such as to attach much significance to the severity of the reaction or to the promptness with which it occurs. Some believe that severe local reactions indicate recent infection or active disease, especially when small doses of tuberculin are used. Others however, believe that a positive reaction in children under 5 years of age is significant of clinical tuberculosis; but Asserson found that 40% of infants, in a group of 460 reactors under two years of age were free from any clinical or radiological evidence of tuberculosis. Myers found 18% only in a group of 236 infant reactors under two years of age, showing radiological evidence of tuberculosis.

In India, with a high incidence of tuberculous infection, the diagnosis of tuberculous disease at any age, should not be made on the single criterion of tuberculin reaction alone. Whether or not a given individual is having clinical tuberculosis must be found out by other methods as well, among which a radiological examination ranks first. Poncher says "No conclusion as to a positive tuberculin test should be drawn at any age other than that the individual has been infected." Myers of America has always considered the tuberculin test, not only as evidence of infection, but also suggestive of the reactor developing the disease. Theoretically, this is correct, since the first phase of the disease is infection and a certain per cent of primary infections, go steadily on to progressive primary disease. But to warn every positive reactor that a calamity is impending is absurd. Myers says, "The first infection may be likened to the placing of bombs within the bodies. How these bombs are timed and how or when the fuses are lighted, cannot yet be determined. Some may be timed for a few months, others for a hundred years and still others for any intervening time. No doubt many appear to be duds, in that the fuse is never lighted or may become extinguished or that the bomb itself is completely destroyed or removed by the resisting forces of the body. Many conditions may develop which prevent the bomb from exploding ....."

In fact, the problem in the epidemiology of tuberculosis is to find out the answer to the question of why the incidence of the disease is low as compared with the high incidence of infection. An



inter-play of the infection with various environmental and socio-economic factors appears to be necessary for producing the disease. On the other hand, in India, with its low standard of public health, poor socio-economic conditions and inadequate preventive measures, the danger of getting infected through uncontrollable factors must be stressed. In order to avoid the danger of a primary natural infection, BCG vaccination is advocated.

**Conclusion.**—We cannot conclude this article better than by quoting McDougall of the WHO, who says "the tuberculin reaction is the most reliable test at present at our disposal for assessing the incidence of infection in any community. It has, indeed become one of the most valuable weapons in the armamentarium of the epidemiologist and its use is likely to be extended in the future especially in the young adult groups, in whom the significance of a negative reaction is so important".

#### Bibliography:

1. Pinner, Max.—Pulmonary Tuberculosis in the Adult, (1947).
2. Benjamin Goldberg—Clinical Tuberculosis, (1946), page C 193.
3. Seibert, Florence, B. *et al*—Am. Rev. Tuberc., 30: 705, 1934.
4. Seibert, Florence, B.—J. Biol. Chem., 133, p. 593, 1940.
5. Rich, A. R., and Lewis, M. R.—Bull. Johns Hopkins, 56: 115, 1932.
6. Deives, L. and Mallroy, T. B.—Am. Jour. of Path., 8: 689, 1932.
7. Follis, R. H. Jr.—Bull. Johns Hopkins, 66: 245, 1940.
8. Ranganathan, K. S.—Proc. BCG Confer., April 1951, issued by Central BCG Organisation.
9. Dahlstrom, A. W.—Rev. Tuberc., 42: 471, 1940.
10. Aronson, J. D.—Am. Rev. Tuberc., 63: 151, 1951.
11. Tukey, John, W. Dufour Emma, H., and Seibert, Florence—Am. Rev. Tuberc., 62: 77, 1950.
12. Lumsden, L. L., Dearing, W. P., and Brown, R. A.—Am. Jour. Pub. Health, 29: 25, 1939.
13. Olson, B. J., Wright, W. H., and Nolan, M. O.—Pub. Health Rep., 56: 2105, 1941.
14. Long, H. R.—Am. Rev. Tuberc. 63: 355, 1951.
15. Asserson, M. A., and Myers, J. A., and others—quoted by McDougall, J. B.—Global Study in Social Pathology, 1949, p. 208.
16. Poncher, H. G.—"Tuberculin" as in (2), above page E. 61.
17. Myers, J. A.—quoted by McDougall, J. B., as in 15 above p 260.
18. McDougall, J. B.—as in 15 and 17 above p. 271.

### Corticotropin Therapy in Children

28 children were treated with corticotropin in hospital, by Kreidberg *et al*, in different conditions. They report that favourable results were obtained in cases of bronchial asthma, nonthrombocytopenic purpura, dermatitis venenata, rheumatic fever, chorea (Sydenham's) rheumatoid arthritis and rheumatic fevers, and in nephrosis. The course of subacute leukæmia did not receive any lasting improvement. It was not of value in glomerulo-nephritis, Wilson's disease, poliomyelitis, and thrombocytopenic purpura. The major untoward side-effects of this therapy, were convulsions, and hypertension. The authors consider that corticotropin represents a relatively safe and valuable addition to the therapy of a number of serious diseases of children.—(*Jour. Paediatrics*: St. Louis, Oct. 1952, pp. 397-407).

# INDUSTRIAL DERMATITIS\*

D. P. JAYARAM, B.Sc., M.B., B.S.,

*Dermatologist, Sri Krishnarajendra Hospital, Mysore.*

INDUSTRIAL dermatitis forms a major group of all occupational diseases which are compensable. That this is so, is easy to imagine, when we realize that the skin is the largest organ in the body and is the first to come into contact with external irritants. Perhaps, the skin is the most insulted of all organs in the body with one exception, *viz.*, the gastro-intestinal tract.

In a highly industrialized country like the United States of America, two-thirds of all occupational diseases for which compensation is paid, is for Industrial dermatoses. In England, 35% of compensable occupational disease is due to industrial dermatitis. In these countries it is estimated roughly that 20% of all skin diseases are of occupational origin.

The incidence and extent of Industrial dermatitis in India is by no means less. But no statistical data are readily available for two reasons:—firstly no country-wide survey has been made; and secondly, all causes of industrial dermatitis have not been covered by the Government of India, Workmen's Compensation Act of 1923, as modified up to April 1950. The following agents are listed in Schedule III as causes of compensable industrial dermatitis:—Anthrax, nitrous fumes, phosphorus, mercury, benzene and homologues, chrome ulceration, arsenic, radium and radio-active substances, X-rays, tar, pitch, mineral oils, and lastly cyanides. I need hardly say that the provisions of this Act as it stands today, are very inadequate, and do not cover the innumerable skin hazards in industry which deserve compensation. The scope and provisions of this act therefore require to be revised, but it should be preceded by a survey of the existing industrial hazards in our Industries. A beginning has been made in this direction, by the Central Government in the Ministry of Labour and under the direction of the Chief Inspector of Factories, a Medical Expert provided by the Colombo Plan, is conducting surveys of occupational hazards in some industries. As part of this programme, Chrome-mining and Storage-battery industries in Mysore, have been surveyed.

A study of Industrial dermatitis includes the medical and legal aspects. Since compensation is admissible *only* if any disease is proved to be of occupational origin it becomes necessary to have a definition of what constitutes industrial dermatitis.

\* This paper is based on a discussion of the subject at a Symposium on Industrial Diseases, held at Badravathi, Shimoga District, Mysore State, on September 7, 1952, as part of the programme of the Second Annual Conference of the Shimoga branch of the Indian Medical Association.

Industrial dermatitis may be defined as any inflammatory condition of the skin due to one's employment in industry where a connection could be shown to relate to the conditions of work as a major contributing or eliciting factor. This article relates only to the medical aspects of the subject and not to its legal aspects.

Protection is one of the main functions of the skin, and its structure is designed to serve this purpose. It affords mechanical protection to the deeper structures. The chemically inert, horny, outer layer, the stratum corneum is a poor conductor of electricity and it also protects against the action of water, alcohol, certain solvents, and fairly strong acids, but *not* of alkalis and sulphides. The pH of the normal skin which is 5.5 (acidic) affords protection against pathogenic micro-organisms. The secretions of the skin containing cholesterol and liquid waxes protect the skin against water-soluble irritants. In the midst of this admirable defence mechanism there are some weak spots. These are the openings of the sweat glands, hair follicles and breaks in the epidermis. Any factor which impairs this defensive mechanism of the skin increases its susceptibility to the action of external irritants. A number of factors are known to predispose to industrial dermatitis :—(1) Race: White races being more susceptible. (2) Perspiration by dissolving solid substances may act as an irritant. (3) Diet influences by way of altering the pH. (4) Age: Younger and newer workers suffer more. (5) Sex: Men suffer more than women. (6) Season: Summer is worse because of the scanty dress worn and also the effect of increased perspiration. (7) Personal uncleanness: such as irritant-soaked clothes, and untidy environments. (8) Allergy.

The causative agents of industrial dermatitis act in one of two ways: either as primary irritants or as cutaneous sensitizers. In 80 per cent of cases they act as primary irritants. By primary irritants are meant those agents which cause dermatitis by direct action at the site of contact, in sufficient intensity or quality and for a sufficient time. Such primary irritants so act on the skin as to produce definite physical or chemical action on the skin. Strong acids, strong alkalis, reducing agents, organic solvents, are examples of primary irritants. Cutaneous sensitizers do not produce any changes on primary contact, but may effect such specific changes in the skin that, after an incubation period of several days, or months, further contact will cause dermatitis. Dyes, photo-developers, rubber compounds, insecticides, oils, resins and alkali bichromates belong to this category. Though all causes of industrial dermatitis act in one of two ways as stated above, we may group them into five main categories :—

(1) *Mechanical causes* :—Friction, trauma and pressure lead on to lacerations, abrasions and callosities, to which infection may be added.

(2) *Physical causes*:—Heat (erythema, telangiectasia); Cold (frostbite, urticaria, sunlight (keratoses); Electricity (burns); X-rays and Radium (burns).

(3) *Chemical causes* various inorganic chemicals.

(4) *Plants*: poison ivy, cashewnut-shell oil.

(5) *Biological agents*:—Bacteria (anthrax in leather workers), Fungi (yeast in bakers); Parasites (grain-itch in grocers).

The clinical picture of industrial dermatitis depends on the conditions of work and on the nature of the causative agent.

An acute eczematous eruption is often of allergic origin and commonly occurs in the clothing, textiles, chemical, fur, or food-handler's trades. It begins with a pruritus of the exposed parts. This is usually followed by erythema, œdema, papules, vesicles, crusts and desquamation. The process may become arrested at any of the stages. Unexposed parts are affected only in allergic cases. Mild cases are the most frequent and the worker usually continues to work. In most cases of allergic dermatitis he develops a "hypo-sensitization" or 'hardening' in the course of three or four weeks and the worker may continue to work without further trouble. This does *not* happen with primary irritants. Chronic fissured eczema occurs after long continued exposure to mild primary irritants. Handling of soaps, solvents, cement, paint, furniture-polish may give rise to such a picture. Folliculitis and acne occur in persons exposed to coal tar, pitch, crude petrolatum, cutting oils and chlorinated hydrocarbons; keratoses and epitheliomas may result from excessive exposure to X-rays, radium, coal tar and pitch. Ulcers may be produced by strong primary irritants like lime, chromic acid, zinc chloride and sodium carbonate. Pigmentary changes such as depigmentation from reducing agents, hyper-pigmentation from contact with photo-sensitizers, argyria in silver workers, and canary yellow colouration in T.N.T. workers may occur.

Diagnosis of industrial dermatitis.—The diagnosis is based on the history, site of eruption, pattern of the lesions and the patch test. The history would show that the inception of the dermatitis is during or shortly after industrial exposure, upon removal from which there would be an amelioration of symptoms within a period of three months and a recurrence or exacerbation on returning to work. Other workers are also similarly affected.

The dermatitis is confined to the sites of maximal exposure. Other workers are affected in similar areas, by a similar type of eruption. And an application of the presumptive casual agent to the unaffected skin close to the site of eruption gives a similar or same reaction as the dermatitis, acute or chronic eczematous eruptions are not indicative of any particular individual irritant. But, in some instances very characteristic lesions are produced *viz.*, paronychia in fruit and vegetable canners; acneform eruptions in workers using cutting oils; keratotic lesions from exposure to X-radiation and

coal-tar products. Lastly the patch-test is useful in finding the actual substance causing an allergic contact-dermatitis.

**TREATMENT:**—Treatment is simple when the dermatitis is recognized as of occupational origin. The majority are mild cases. They may be returned to work with protective ointments and protective clothes, when the dermatitis will disappear in the course of a week or two. If there is no recovery in 2 weeks, the worker must be withdrawn from the job, when he should recover anytime within two months if the dermatitis is of industrial origin. Severe cases however, should be removed from work as soon as recognized and wet dressings, zinc cream and anti-histaminics employed.

**Prevention of industrial dermatitis.**—Prevention of industrial dermatitis is a more important problem. This can be aided by pre-employment examinations and rotation of workers. By maintaining cleanliness of the working environment by adequate ventilation, and the cleanliness of the worker by providing facilities for shower bath, clean work-dress, many skin hazards may be prevented. The use of safety-engineering and safeguards (protective clothes, goggles, gloves) wherever necessary must be enforced. Lastly the phenomenon of 'hardening' in industrial workers may also be taken advantage of.

#### **Toxicity and Skin Effects of Compounds used in the Rubber and Plastic Industries**

Mallette and Von Haam have reviewed the industrial aspects and the important toxicological literature relating to compounds used as accelerators, activators, and antioxidants in the rubber industry. Twelve compounds in extensive use at present in this industry were studied toxicologically for their skin-irritating and skin sensitizing properties. Wide ranges of toxicity, which could not be predicted by the chemical composition of the various compounds were found by animal experiments. Skin tests showed that compounds of all three groups were mild-to-severe irritants to the skin and that many compounds, particularly in the group of antioxidants, were moderately sensitizing. The results of these investigations do not measure industrial health hazards but point to the potentialities of these compounds and emphasize the great importance of testing all new materials before they are introduced into the industry. Based on these data, industrial hygiene studies should be directed towards determining the actual health hazard and designing the controls therefor.—(*Arch. Indust. Hyg. and Occup. Med.*, 5: 311-317, 1952).

#### **Dust causes Lung changes in Graphite Workers**

Pneumoconiosis was found to have been initiated by graphite dust in 53 workers, as revealed by clinical and X-ray examinations. After some years of continuous work in graphite industry, pneumoconiotic callosities had become cavities filled with pitch-black fluid. Graphite pneumoconiosis should be acknowledged as a compensable disease.—(*Nucl. Sci. Abstr.*, 6:436, 30.6-1952).



## A SURVEY OF EYE TROUBLES IN SCHOOL CHILDREN AT LUCKNOW

V. N. KHANNA, D.O., D.O.M.S., D.T.M., I.M.S.,  
Reader in Ophthalmology, K. G. Medical College, Lucknow, U.P.

IN our country very little care is given to eye complaints except when they become very acute or chronic. Many parents and teachers find that young children suffer from one type of eye trouble or another, which causes difficulty and hindrance in the pursuit of their studies. Neglect at this stage may cause permanent damage to the eye. Some children, though otherwise intelligent and hard-working have to suffer a constant handicap, due to eye complaints. No accurate statistics of eye troubles in school-going children are available in our State. [Note:—Conditions in the other States of India are no better.—Ed. ANTISEPTIC]. In order to get some accurate data on the subject, a large number of students of the age-group 6 to 14 years studying in classes A to VIII of different schools at Lucknow were examined. Table I gives the percentage of different types of complaints observed in these children.

TABLE I  
Showing the Main Eye Complaints in School-going Children

Total number of children examined 1170			Percentage
I.	Watering of the eye	166	14.2
II.	Headache	34	2.9
III.	Skin-rashes	140	11.96
IV.	Vision 6/6—6/9 Class A	725	64.29
	6/12—6/18 Class B	270	23.07
	6/24—Class C	110	9.4
V.	Hyperæmia of conjunctiva	452	38.63
VI.	Xerosis of conjunctiva	20	1.7
VII.	Trachoma	206	17.55
VIII.	Corneal anæsthesia	436	37.26

This table clearly shows that only 64.29% had normal vision but some of them suffered from other complaints. In fact, some children showed more than one abnormality, at the same time. The commonest signs observed were hyperæmia of the conjunctiva, corneal anæsthesia and defective vision. Many complained of headaches or watering of the eyes.

Hyperæmia of conjunctiva was observed in 32.63% of the children and the major cause of this trouble was chronic trachoma.

Corneal anæsthesia is one of the early signs of malnutrition. The different signs and symptoms associated with corneal anæsthesia observed in these children are recorded in Table II.

\* Specially contributed to THE ANTISEPTIC



TABLE II  
Showing details of different signs and symptoms associated with  
corneal anaesthesia

Total number of children showing anaesthesia 436		percentage
1. Hyperaemia of conjunctiva	236	54.35
2. Trachoma	106	33.84
3. Xerosis of the conjunctiva	20	4.58
4. Roughness of skin	110	25.22
5. Night-blindness	10	2.28
6. Recurrent stye and blepharitis	3	1.83
7. Watering of eyes	52	11.92
8. Vision A group	230	52.75
B "	138	31.18
C "	52	11.92

Table II shows that 54.36% children suffering from corneal anaesthesia had hyperaemia of the conjunctiva and the other two main complaints were trachoma (23.34%) and roughness of the skin (25.22%). It is therefore, clear that much of the hyperaemia recorded in Table I was also caused by vitamin deficiency. The symptoms of vitamin A deficiency (*viz.*, night-blindness and xerosis of the conjunctiva) were present only in 2.28 and 4.58% cases respectively. None showed any hyper-pigmentation of the conjunctiva. All those who had defective vision were more closely examined and the results are given in Table III:—

TABLE III  
Showing details or signs and symptoms in 380 Children with Defective Vision

1. Hyperaemia of conjunctiva	172	or 45.25 per cent
2. Chronic trachoma	120	31.56 "
3. Pain and watering of eyes	102	26.34 "
4. Corneal anaesthesia	182	47.89 "
5. Kerato-conjunctivitis	8	2.10 "
6. Recurrent stye (Hordeolum)	10	2.63 "
7. Otherwise normal	58	15.26 "
8. Roughness of skin	62	16.31 "
9. Corneal opacity	10	2.63 "
10. Squint	10	2.63 "

It was also observed that the defective vision was very largely due to uncorrected refractive errors (80%), and to corneal opacities and squint (20%). The present survey shows that more than 33% of the school-going children suffer from defective vision and in most cases no arrangements have been made for the correction of their refractive errors. About the same percentage (37%) suffered from signs of malnutrition and about half the number (17.5%) were suffering from active trachoma. The results of this survey have clearly brought out the imperative necessity for systematic and regular inspections of the eyes of school children and prompt corrections of observed defects.

# HYSTERICAL MANIFESTATIONS\*

(A Critical Study of Some Aspects)

Miss. G. BHATTACHARYYA, B.Sc., M.B., B.S.,  
*Women and Children's Hospital Madras.*

AND

S SEN, B.Sc., M.B. (Cal.), M.B.C.P. (Lond.), F.R.F.P. & S.O., D.T.M. & H. (Lond.).  
*Prof. of Clinical Medicine, National Medical College, Calcutta.*

IN our last article on "the Epilepsies" (ANTISEPTIC, September 1952) we hazarded the suggestion that hysteria, like other psychoneuroses may be a manifestation of epilepsy or at least belong to that common pool which is called "the epilepsies".

The general term psychoneurosis comprises a group of cases in which the symptoms represent some degree of failure of the individual to adapt himself to the realities of his daily life in suitable and adequate measure. Among the principal varieties of such psychoneuroses are hysteria, compulsion neuroses, neurasthenia and anxiety neuroses.

A nervous breakdown is, ordinarily the result of a disturbance of equilibrium between the adaptability of the individual and the complexities of his surroundings. The breakdown may arise from one or both. The power of adaptation may be abnormally weak or defective; and this may be inherited or may have been acquired by repeated set-backs and shocks. It is also just possible that the difficulties may be insurmountable. Both may be operative. Different people, react differently to the ordinary difficulties met with in daily life.

Modern concepts of psychology recognize certain aspects of the mind such as the "conscious", the "subconscious", and the "unconscious". The "conscious mind" represents all those thoughts which are known to the person at any given time. The "subconscious mind" is concerned with ideas which, though not in the field of consciousness at a given moment, can be conjured up easily through association of ideas. The "unconscious mind" contains memories and ideas long forgotten which can only be brought into consciousness with great difficulty by such methods as hypnotism or psycho-analysis.

According to this concept, a free interchange of ideas is constantly taking place between the "conscious" and the "subconscious" minds; but little, or nothing between the conscious and the unconscious. It is in this unconscious plane that memories of a painful nature and ideas of self-preservation and race-preservation are repressed when a gratification of such desires is found incompatible with approved social conduct.

\* Specially contributed to THE ANTISEPTIC.

On this hypothesis, symptoms of "nervousness" may develop in one or other of the following ways :—

1. By the reproduction, through an unconscious mental association of the emotional state, of a painful memory—long forgotten by the patient.
2. By a mental conflict resulting from the desire to attain ends which may be unattainable or/and incompatible with the conventions of ordinary life.

Rows in 1920 described the case of a man who could ride in a bus or train without discomfort but was terrified when he entered a tram-car. He associated in his mind the sound of the trolley wheel on the wire, with the sound of an approaching shell that had broken into his dugout injuring him and killing several others, during the World War.

We know of another case of a man who used to work in a factory where he had an accident and received a shock but not much physical injury. He was granted long leave, and a few days before the expiry of his leave he suddenly developed spastic paraplegia. At first there was some difficulty in diagnosis. The patient did not remember about the accident until it was brought out by a process of psycho-analysis and he was cured. In this case his unconscious mind associated his return to work with the forgotten accident and this caused the paraplegia which was a hysterical manifestation.

In the second process the conflict is between the suppressed desires and the impossibility of their attainment; and unless this conflict is successfully warded off by other useful daily activities, neurosis of some kind may develop e.g., hysterical fits or paralysis. This need not necessarily be only in the sexual field. We followed a case of an old man who developed frequent fits of hysteria. By a close examination of his history it was ascertained that in his younger days he had great ambitions, which were all thwarted. He however, had a good-enough job and devoted himself wholeheartedly to work and felt apparently satisfied. But there was a subconscious sense of disappointment and a conflict between his ambition and the impossibility of its attainment in the circumstances in which he was placed. He always grouched that he did not receive his desserts. His devotion to work could not satisfactorily settle this conflict by working off the energy in a useful manner. His hysterical fits lasted for about 5 years and then completely disappeared. He then lived for quite a number of years.

When the mental balance is thus upset at the subconscious level, adverse physical and environmental conditions may, in some cases precipitate some form of psychoneurosis.

Starting from a mental shock or conflict which may lead to some emotional disturbances—a person of the above description

may exhibit physical disturbances through the autonomic system ; or on the other hand, it may result in mental disturbances, a feeling of apprehension and general "nervousness". Obsessions, a general lack of perspective, suspicion, hypochondriasis and delusions may ultimately result. Depending on the degree of mental stability these states may further develop into hysteria, compulsion-neurosis, neurasthenia and anxiety-neurosis. No definite line of demarcation can be drawn between them—as there are several symptoms common to all the four.

In an earlier article on the epilepsies, we showed that varieties of psychoneuroses were only variants of epilepsy ; and on the same basis hysteria may therefore, also be regarded as such. Epileptic fits have been regarded by some as momentary accentuations of the tendency to withdraw all interest from an unsatisfactory environment. Clark says that they occur when things are going badly and the patient is not getting what he wants. Hysteria is only another manifestation of the same process.

In certain cases of inco-ordinated epilepsy, the movements exhibit to a large extent the features of voluntary movement. They may be present before an attack as a motor aura ; or during an attack, replacing the convulsion, as a discharge or a release phenomenon. Wilson believes that the existence of this group "breaks down any distinction between what we call functional and any other kind of fit"....."that centres at the highest level must be implicated, and that both the hysterical fit and the post-epileptic states represent activity released from cortical inhibition ; and further that a post-epileptic automatism does not differ in any fundamental way from hysterical fugue". Others do not agree with him.

Hysteria is indeed an overworked term. It has been applied to mental processes or mental "mechanisms" in which a complex undergoes repression and is represented by paralysis or other bodily disturbances, or by some mental aberration such as a morbid fear. A hysterical personality is highly egocentric and immature, both in talk and appearance. "They are conspicuous for the demands they make on people around them. They are inclined to make dramatic displays by producing dramatic symptoms, such as fugues and suicidal gestures. They dramatise their emotions specially so as to give the appearance of suffering, but their feelings seem to lack depth. They are usually women and usually frigid." (Henderson).

There is also a constitutional aspect. A significant number of such hysterical personalities are hereditarily determined, their parents having had the same disabilities. This is not all. Psycho-neurotic syndromes of the anxiety, hysterical and obsessional types have in some instances at least a constitutional basis and the inherited constitution may be specific in each group ; but there is some common factor which shows itself in an anxious personality.

Henderson *et al* consider that intelligence plays a part in determining the occurrence of psychoneurotic reactions *in such a personality* (the italics are ours) as a whole, being relatively commoner among people both of superior and of inferior intelligence. Intelligence has an effect in determining the form of the reaction, hysterical symptoms being commoner amongst dull individuals.

We have stated already that the neurosis which develops from a mental conflict, may take various forms such as anxiety-neurosis or a so-called conversion-neurosis in which peace of mind is sought at the expense of physical disability, as occurs in cases of hysterical paralysis.

On a back ground like this, bodily conditions which impair nutrition of the nervous system, as fatigue—mental or physical, injury, toxæmias and arterio-sclerosis, will develop and facilitate the production of changes in their mental state.

Internal secretions exert an important influence on nervous metabolism through the autonomic system. So they may have some influence in the causation of neurosis in an individual with such a mental conflict.

From the time of Hippocrates various theories have been put forward as to its pathogenesis, culminating in that of Freud who considers that hysteria is the result of painful experiences (mental trauma) the memories of which, through their unpleasantness to the patient, have become dissociated from the conscious part of the mind and repressed into the realm of unconscious mind. Ordinarily such painful mental experiences are neutralized by suitable action or gradual dimming of their effects in course of time; but when for any reason the impressions are not thus neutralized, the memory is apt to be only buried but not destroyed, and is able then in certain adverse circumstances to resume its activity and to influence the feelings and activities of the patient by clashing with the general ideas of behaviour. According to these views, hysterical symptoms (*e.g.* paralyses and anæsthesias etc.) represent manifestations of certain complexes that have become dissociated or "split off" from consciousness and form the type known as conversion hysteria, in which the mental trouble is got rid of at the expense of physical disability. Similarly in anxiety hysteria, the principal symptoms are apprehension, phobias and hysterical attacks similar to what is known as anxiety-neurosis.

To summarise, hysteria occurs more frequently in females; heredity is an important factor; more commonly the symptoms first appear about the time of puberty or soon afterwards. But quite young children may also be liable to get it and we have seen a number of such cases; temperament and hysterical personality may be determining factors. The first symptom may appear after a mental or physical shock; and some definite organic lesion



may be associated with the appearance of hysterical manifestations; and sometimes endocrine disturbances may play some part in its precipitation. Quite often it is an expression of inferiority complex.

The symptoms of hysteria are protean in nature. Its manifestations are so many and so varied that it may simulate practically every possible nervous disease and every mental attitude.

"To those who are unfamiliar with the endless variety of physical disturbances which may occur in hysteria the disease presents many diagnostic pitfalls," said Ritchie Russel. In his opinion, most of us have the germ of hysterical behaviour in ourselves. These may manifest in such small matters as our ability to forget unattractive appointments and our desire to be deaf to unpleasant facts—a mental process which in a grosser degree points to hysteria. The mental psychology is the same—as our forgetfulness or deafness relieves us of some mental disturbance that is caused by unattractive and unpleasant facts. We simply push this unpleasantness to one corner of the mind and exhibit our ability to split our mind into water-tight compartments. This so called dissociation of personality is the characteristic feature of hysteria; and it is remarkably well developed in the hysterics. There is a "sub-conscious malingering" in the hysterics as suggested by Ritchie Russel.

There is one more important point *viz.*, a hysterical phenomenon can be produced by suggestion. As an example, an hysteric who has got anæsthesia of a limb is told (suggested) that she is likely to get some pain in some part of the body. In less than a second, this patient complains of a pain in a part which until that very moment was anæsthetic. Babinski propounded his theory on this fact. According to him the characteristic of an hysterical symptom is that it can be produced by suggestion and made to disappear by persuasion—a condition which he called *pithiatism*. On this basis he considers hysteria to be a pathological condition showing itself by a set of primary symptoms which, in certain subjects, it is possible to reproduce exactly by suggestion and which can be made to disappear again solely by persuasion.

In hysteria there is a split or double personality. Such suggestion comes in the subconscious mind from one of the "split personalities" to another—as hypnotism where a person is hypnotised by suggestion by another.

Thus, hysterical manifestations produced by subcutaneous suggestion achieve a selfish purpose—such as fighting shy of facing unpleasant facts of life. As we said before, hysterical manifestations are protean in nature and simulate every conceivable nervous disease. In the motor field, it may manifest as paralysis, tremors, spasms, contractures and convulsions. On the sensory side it may appear in the form of anæsthesia, pain, hyperæsthesia.



It may affect the special senses:—the *eyes*—as spasms of ocular muscles and defects of vision; *ears*—as deafness; *tongue*—as spasms or absence or abnormality of taste; and *nose*—as anosmia or parosmia. On the other hand such mental symptoms as impaired volition, irritability, depression, exaltation and loss of memory may occur. *Paralysis*:—It may take the form of monoplegia, hemiplegia or paraplegia—the last one is more common and may be complete or partial. Some people can move the legs when lying—but are unable to stand or walk—the so called *astasia-abasia*. Reflexes are generally exaggerated and a “pseudo” ankle clonus may be obtainable. But the plantar reflex is generally absent and never extensor. The hysterical rigidity is very characteristic in which the extensors oppose the flexors. The gait in hysterical paralysis is complicated and unlike any of known organic origin. Thus, in hysterical hemiplegia the affected leg is dragged along with the upper surface of the toes on the ground, instead of being stiffly swung round from the hip-joint as in organic spastic hemiplegia. The hysterical paraplegics generally shuffle along without being able to raise the soles of the feet from the ground. In this connection Babinski’s leg sign is useful. In hemiplegia due to organic cause if the patient lies on his back with his legs widely separated and extended and attempts to assume a sitting position, the paralysed leg is, in the attempt, lifted higher from the floor than the sound limb, whereas in functional paralysis it does not do so. So this is a phenomenon which forms one of the distinguishing features between organic and functional disease.

In hysteria there is no true paralysis of the sphincters. There may be retention of urine with overflow incontinence, but the true incontinence that occurs in spinal cord disease is never found.

(To be continued)

### Oral Penicillin

The absorption of oral penicillin is affected by gastric acidity. Absorption has been shown to be better in patients with achlorhydria and (what is more important) it is better if the drug is swallowed when the stomach is empty. Age has no effect, except that absorption appears to be rather more regular in infants. There are at least three reasons why penicillin should not always be given orally. (1) It is a wasteful method, the dose having to be much larger owing to incomplete absorption, which amounts on an average to about 20% of the amount administered. (2) High concentrations such as those found in the blood for at least a time after only a moderate dose given by injection, cannot be attained; it is a common view that these are useful in promoting diffusion into foci of infection, and, whether this be true or not, it is certainly advisable to achieve such concentrations in treating infections due to rather less sensitive bacteria. (3) Oral therapy is unreliable, because apart from the influence of the factor discussed above there are inexplicable variations in the amount absorbed, not only between one individual and another but in the same subject at different times.—(B.M.J., Aug. 23 1952).

## PATHOGENESIS AND TREATMENT OF ASTHMA\*

DEEN DAYAL SRIVASTAVA, M.D., B.S.,

*Asst. Surgeon and Resident Medical Officer, M. R. Hospital,  
Rattam (Madhya Bharat).*

**Introduction.**—Asthma is one of the common diseases, met with in daily practice. Asthma literally means 'gasping', and is a condition of sudden paroxysmal dyspnoea caused by an abnormal response of the broncho-constrictor part of the respiratory centre to a stimulus—sensory or visceral, resulting in the hyperactivity of the vagal nerve-endings of the bronchial musculature consequently

leading to the bronchial spasms.

This is the picture of the true "spasmodic asthma".

A family history, an asthenic nervous system, and the so-called 'asthma diathesis' are the chief predisposing factors. When we say a condition is 'asthma', we mean only the allergic variety; the other types are bronchial, cardiac, and renal. These terms indicate the source of the abnormal stimulus which terminates in the asthmatic fit. It is not therefore, correct to restrict the term "asthma" to the bronchial variety alone.

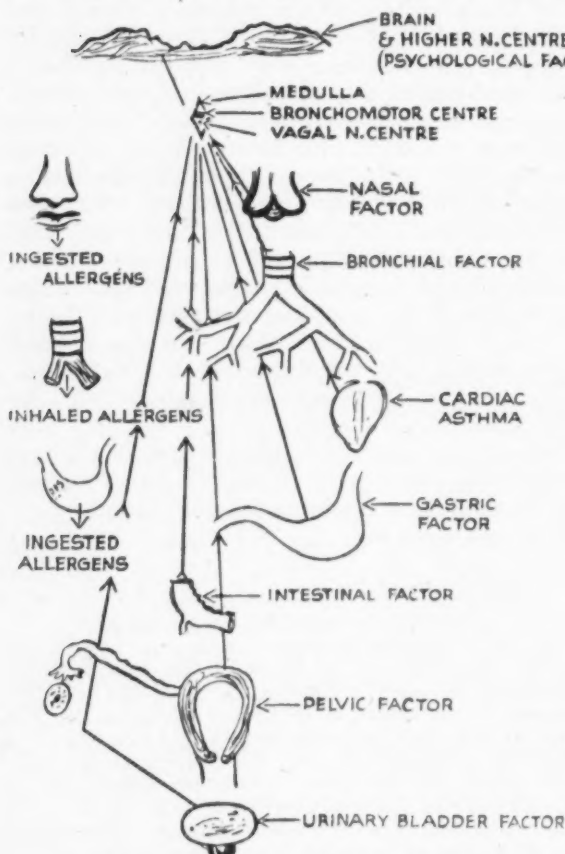


Diagram to illustrate the Pathogenesis of Asthma.

**Pathogenesis of asthma.**—The aetiology of asthma is very uncertain. Asthma has a familial tendency. There is no sex-predi-

\* Specially contributed to THE ANTISEPTIC.

lection, as both sexes are equally affected. No age is exempt, and even very young children suffer from asthma. Sedentary habits often predispose to asthma, as also nasopharyngeal disorders such as—(1) deviated septum; (2) swelling of the turbinates; (3) nasal polypi; and (4) enlarged adenoids. Climatic conditions and particular localities also play some part.

Exciting factors.—The *diagram* on page 118 will show at a glance the exciting factors which are:—

I. INHALANTS:—(1) Chemical substances.

(2) Pollen of grasses and flowers.

(3) Smell of certain drugs, *e.g.*, Ipecacuanha, and Potass-permanganas.

(4) Fine dust of wheat, rice, oats and paddy, factory-smoke, and coal-soot.

II. INGESTANTS:—*e.g.* Certain protein foods, such as, milk, eggs, fish, meat and some of the pulses.

III. IRRITANTS:—(1) *Nasal*:—Dust, smoke, ghee-fumes, spices and petrol gas.

(2) *Bronchial*:—Chronic bronchitis; early bronchiectasis, and foreign body in the bronchi.

(3) *Gastric*.—Overloading of the stomach, and mild types of gastritis (hypochlorhydria often produces asthma and in these cases because of low HCl acid content of the gastric juice there is a weakness of the 'acid barrier of the stomach', leading to a mild type of gastric-catarrh-gastritis and reflexly to asthma).

(4) *Intestinal*:—Constipation, flatulence, appendicitis, colitis.

(5) *Pelvic*:—(especially in the females)—Ovarian cyst, salpingitis, uterine fibroids and endometriosis.

(6) *Urinary bladder*:—Cystitis, lithiasis.

(7) *Nervous*:—Emotion, exertion, excitement.

Certain drugs when given I.V. also give rise to an attack of asthma *e.g.*, Novarsenobillon (N.A.B.)

The asthma centre is stimulated by: (a) Impulses from the brain and the higher nerve centres.

(b) Impulses from

Reflex Stimulation.—→

{ NASAL  
BRONCHIAL  
GASTRIC  
INTESTINAL  
U. BLADDER  
PELVIC  
NERVOUS

(c) Certain toxins directly stimulate when circulating in the blood stream.

(d) Sympathetic inhibition, producing the parasympathetic over-excitation, by an endocrinal influence.

**SYMPTOMATOLOGY:**—"All is not asthma that wheezes," said Chevalier Jackson. 1. Paroxysmal attacks of expiratory dyspnoea. 2. Nocturnal diuresis. 3. Laboured breathing.

Typical signs are:—(a) Visible pulsations in the epigastrium. (b) Hyper-resonant note on percussion. (c) On auscultation—louder rales; inspiration short; and expiration unduly prolonged.

Three pathognomonic factors noticed in laboratory examination are:—(1) the presence of Curshmann's spirals and Charcot-Leyden crystals in the sputum; (2) over 20% eosinophils in the blood; and (3) a lowering of blood sugar.

Allergic asthma is to be differentiated from:—1. *Bronchial asthma*:—Where the attack is never sudden, like "a bolt from the blue", while the allergic type is always unheralded and sudden. In the bronchial type there is always some degree of pre-existing bronchitis and hence a slight leucocytosis; but in the pure allergic variety there is no such increase. The expectoration in bronchial asthma is greater than in the allergic variety.

2. *Cardiac asthma*:—The attack is due to cardiac dysfunction, and a dilatation of the left heart is co-existing. Congestive heart failure is almost invariably present. This leads to the passive dilatation of the lungs and other viscera. Passive congestion of the lungs—→ transudate in the pulmonary alveoli—→ pushed up in the bronchi—→ spasms (with expectoration) excited. There is another possibility too; the vagal nerve-endings in the endocardium may cause the impulses to excite the broncho-spasms, *via.*, the broncho-constrictor part of the respiratory-centre. The sputum is thin, and there is no eosinophilæmia.

3. *Renal asthma*:—The asthmatic attack is a result of kidney failure. When the kidneys fail to perform their normal excretory function, certain toxins accumulate in the blood and asthma results. Urine examination, kidney-function tests, and the blood-chemistry would clinch the diagnosis.

4. *Pulmonary eosinophilia*:—There is great similarity between allergic asthma and pulmonary eosinophilia (Synonyms: Tropical eosinophilia, eosinophilic lung, and Weingarten's syndrome, but in the latter there is always some loss of weight and a low-grade pyrexia, simulating pulmonary tuberculosis. N.A.B. injections act as a therapeutic test. In pulmonary eosinophilia there is a relative eosinophilæmia whereas in the allergic asthma one finds absolute eosinophilæmia. Lastly, in the pulmonary eosinophilia there is "star-shaped or the honey-comb appearance" of both the lungs, but in the allergic asthma the shadows of both the lungs will be quite clear.

**NOTE:**—Pulmonary eosinophilia is regarded by some to be analogous to pulmonary spirochætosis.

**TREATMENT:**—The treatment of asthma should be directed to the treatment of:—(1) the asthmatic attack; (2) the status asthmaticus; and (3) the associated symptoms and the underlying causes.

**I. Treatment of the asthmatic attack:**—Rest in bed (propped up) and the injection of sol. adr. chlor. (1:1000) subcutaneously are the most important. Adrenaline acts like magic and quickly aborts the attack of asthma. But when repeated often, the dose may have to be increased gradually. Adrenaline-in-oil has a more prolonged action. Counter-irritants to the chest, *e.g.*, linseed-poultice, liniment A.B.C., and antiphlogistine may be applied and in refractory cases, Bray advocates the use of:—

<b>R</b> Morphia	gr. 1/8;
Atropine	gr. 1/50; and
Adrenaline soln 1:1000 ad	up to 1 cc.
—Mft. Injectio. Inject. S.O.S.	

Sometimes, sol. adr. hydrochlor (1 in 1000: 15 minims) in an ounce of aqua chloroformi given orally during the attack acts like a charm. Morphia is, as a rule, strongly contra-indicated in asthma.

**Drugs:**—(a) A combination of one Aminocardol tablet one Redoxon tablet and 1/3 grain phenobarbitone made into one powder thrice a day orally administered with water has been found useful during the acute attack. (b) Isoprenaline tablets used sublingually also affords some relief. (c) Ephedrine gr. 1/2 promptly relieves the acute paroxysm of asthma. (d) Aminophylline 5 grains dissolved in 10 c.c. of redistilled water and injected I.V. very slowly relaxes the spasms in about 5 minutes. It raises the sensitivity of an asthma patient to adrenaline.

**II. Treatment of the status asthmaticus:**—(a) HURST's method consists in injecting 2 minims of Adr. soln. (1 in 1000) every minute till the chain of the fits breaks down, then 1 minim every 15 minutes in the first hour, every half-hour during the next 2 hours and then every hour for the next 4 hours. It is then administered every 4 hours till the patient goes to bed. By this method as much as 5 c.cs. of adrenaline have been pushed in with impunity and without ill-effect. (b) Two drachms of ether in 2 ounces of olive oil is given drop by drop rectally. (c) U. V. rays are stated to have an abortive effect in status asthmaticus. (d) Quite recently ACTH has been found to be life saving in this condition; but it is costly, its effects are temporary and its prolonged use is harmful. (e) Allen Birch advocates the use of sterile paraldehyde, 2 to 3 c.c. I.V. mixed with 25 c.c. of isotonic saline, given very slowly at body-temperature.

Status asthmaticus is analogous to status epilepticus, wherein the attacks of the disease come on in such quick succession that they overlap one another.

**III. Treatment of the associated symptoms and the underlying causes:**—1. The offending allergen is discovered and removed if possible. 2. Overloading of the stomach is to be avoided, particularly,



at nights. The evening meal is preferably taken before 6-30 or 7 p.m. 3. Adequate mental rest must be ensured. 4. If climate is the predisposing factor the patient should move to a more suitable one. 5. Thorough rhinoscopy is done, and any defect is remedied. Nasal disorders generally require surgical interference. For chronic nasal catarrh, nose-drops may be useful *e.g.*

℞	Menthol crystals	...	gr. iv
	Adren. Soln. (1:1000)	...	1 c.c.
	Argyrol Soln. (8%)	...	℥ ix
	Liquid paraffin ad	...	3 i

Mft. Nebulæ. Instil two drops in either nostril by means of a dropper two or three times a day.

These drops may induce rhinorrhœa in some cases, which is transient and may not require any treatment. 6. If the patient is anæmic "Whole Liver Extract with vitamin B complex and C" is injected I.M. 2 to 3 c.c. twice or thrice a week. 7. If there is hypochlorhydria 10 or 15 minims of acid hydrochlor dil: in an ounce of orange juice or some syrup with water half an hour before meals b.d. and an ounce of simple carminative mixture 1 hour after meals, will help. 8. Persons with a very excitable nervous system may take "Peacock's Bromides" with advantage. 9. For bronchitis an ordinary sedative expectorant mixture containing a bronchial antispasmodic and a bronchial disinfectant will do good. Ephedrine is an efficient antispasmodic and creosote a good disinfectant. 10. A thorough investigation of the pelvic-uterine factor is made, and necessary treatment given with the help of a gynaecologist. 11. If the patient is running a temperature above 100°F. penicillin and sulpha drugs are exhibited symptomatically to bring the temperature down. 12. Non-specific protein therapy is given, using sterile milk injections or peptone intragluteally; these mobilise immune bodies in the general circulation. 13. Some cases improve by giving intravenously 10 cc. of 10 per cent Calcibronat, with 25 cc. of a 25% Biascose and then withdrawing 5 cc. of the patient's blood in the same syringe and then injecting it into the patient's buttock. This simultaneous autohæmotherapy is given twice a week; every-time the quantity of blood is increased by 1 cc. till it reaches 10 cc. 12 injections constitute a full course. 14. Anti-histaminic drugs:—These also deserve a fair trial, especially when allergy is found to be the underlying cause. 15. A routine mixture is used during intervals, made up as under:—

℞	Ephedrine hydrochloride	..	gr. 1/3
	Potassium iodide	...	gr. iii
	Ammon carbonas	...	gr. iv
	Tr. Camphor Oo.	...	℥ xx
	Tr. Lobelia ætheria	...	℥ xv
	Tr. Hyoscyamus	...	℥ x
	Ext. grindelia liq	...	3 i
	Syr. Adothoda vasaca	...	3 ip
	Inf. Senega racens ad	...	3 i

Mft. mist. One dose t.i.d.



16. General hygienic measures are also to be undertaken, and reassurance is also necessary to allay fear in the patient. 17. Physiotherapy:—Deep breathing exercises with controlled efforts at forced exhalation, may be tried but in selected cases only. The use of an abdominal binder will help. 18. A mixture of 20% oxygen and 80% Helium given by a B.L.B. mask for about half an hour followed by 90% oxygen for one hour, will be useful where facilities can be had as in hospitalized cases.

I wish to express my grateful thanks to Sri Dr. Bishambar Nath Sibal, M.B., B.S., Civil Surgeon and District Medical Officer, Ratlam (M.B.).

### ***Asthma and Cardiac Dyspnoea—A Differential Diagnosis***

Six points are listed by Periman as indicative of *asthmatic origin*. (1) Long history of asthma or allergic diseases. (2) Other evidence of allergic reactions. (3) Tenacious sputum with Charcot-Leyden crystals, Curachmann spirals and eosinophils. (4) Eosinophils in blood and secretions, both nasal and bronchial. (5) Normal or even shortened circulation time. (6) Response to iodides and sympathomimetic drugs.

A further six points are listed which indicate *cardiac origin*. (1) History of cardiovascular or renal disease. (2) Moist basilar rales in addition to sibilant sonorous ones. (3) Sputum fluid or frothy, occasionally blood-tinged, without Charcot-Leyden crystals or eosinophils. (4) Respirations more rapid, and the two phases less disproportioned. (5) Circulation time more prolonged. (6) Good response to specific treatment, bed rest, digitalis and mercurial diuretics.—(*Calif. Med.*, 75, 199-201, 1952).

### ***Night Cramps and Intermittent Claudication***

Moss and Herrmann (1940, 1948) described the beneficial action of quinine in muscle cramps, especially those of the lower extremities, which occur in elderly people, pregnant women, sufferers from varicose veins etc. Many doctors corroborate the above finding, amongst them them the Dutch Surgeon and Orthopaedist Colaco Belmonte, who read a paper before the Dutch Orthopaedic Society on the above subject. As regards muscle cramps, restless legs etc. in such conditions he stated:—It is a fact that quinine is a very valuable drug in the treatment of these cramps. I witnessed its use by American military surgeons in the Far East in many of the muscular disturbances in over-fatigued soldiers and physically exhausted prisoners-of-war. Ever since, I have prescribed quinine to patients with night cramps as a routine measure, 200 mg. of quinine sulphate, three times a day and success was nearly always uniformly good.—(*Nederl. Tydschr. V. Geneesk.*, 95, 1193-7, *Eng. Abst. in S. Afr. Med. Jour.*, 11-10-1952).

## OBSERVATIONS ON RHEUMATIC DISEASES\*

A. V. S. SARMA, M.B., B.S., D.C.H. (Lond.), F.D.S. (Lond.),  
*Honorary Physician, Government Royapettah Hospital, Madras.*

WESTERN writers make the statement that rheumatic diseases are rare in the tropics. The truth is far from this.

The rheumatic state has been the subject of constant and intense study. More recently group A streptococci have been incriminated by Homer Swift (1949). "Vitamin C deficiency may be an integral part of the mechanism in the pathogenesis of rheumatic fever." (Rinehart, 1935-'36). Abbasy and his colleagues think that there is greater metabolic need for the use of vitamin C in this condition. McKowen has stressed that in rheumatic manifestations, the mesodermal derivatives appear to be targets of the disease processes.

The clinical entities amongst the rheumatic diseases are the following:—

(1) Sore throats; (pharyngitis and tonsillitis). (2) growing pains; subacute rheumatism; (3) acute rheumatic fever (arthritis, which may be minimal or even absent in children; (4) rheumatic peri-, myo-, and endo-carditis; (5) pleuritis and pneumonia; (6) nervous manifestations—Sydenham's chorea and delirium; (7) rheumatic nodules; (8) dermal manifestations—erythema marginatum rheumaticum; erythema nodosum; (9) alimentary manifestations; vomiting; chronic intestinal indigestion and appendicular irritation; and (10) myositis; fibrositis; torticollis; orchitis; peritonism.

While studying the incidence of medical illnesses in children during a four-year period, I noted a 2.52% incidence of rheumatic diseases. This figure is low, as it reveals only the state noticed among the inpatients inside the ward. Many patients with rheumatic conditions are treated only as out-patients and escape statistical notice.

Cases of rheumatic chorea are admitted very rarely as also arthritic cases who are given thorough advice to be followed in the outpatient section. As the outpatient registers have literally to be waded through, it has been not possible for me to get at the incidence from that source.

During a recent survey of school boys of the ages of 10 to 20 in a large school in Madras city, ninety four out of 506 (or 20%) had frankly septic tonsils and eighteen had unquestionable rheumatic involvement of the heart, (4%). Eight had pharyngitis (1.5%), and six dental caries (1%). Pharyngitis and tonsillitis and dental caries as rheumatic precursors increase the risk so far as the total susceptibles are concerned. Thus the rheumatic state is a real menace to the children.

\* Specially contributed to THE ANTISEPTIC.

An interesting observation of possible therapeutic utility is the following:—A boy was under my care with advanced rheumatic mitral disease and recurrent arthritis. The noteworthy features in the patient were: (1) Splenomegaly (M.T. crescents found in the blood); (2) recurrent phases of heart failure; (3) very great comfort of the patient (no tricuspid stenosis detected) as compared with contemporary controls. Is there anything beneficial in malarial biochemical pathology antagonising rheumatic processes? If so, is malaria so common in India, a potent factor counteracting to an extent the rheumatic diseases, and minimising morbidity of rheumatic origin? It is reasonable to think that neuronic syphilis is less common in India as a result of malarial infections; and on an analogy, it will not be unscientific to think that rheumatic chorea at least is certainly rarer than in the British Isles.

Sore throats.—Rheumatic sore throats (pharyngitis and tonsillitis) are difficult of recognition *as such* and therefore, every sore throat must be treated with care and suspicion.

Rheumatic polyarthritis, rheumatic carditis, acute nephritis, purpura and erythema nodosum are dreaded complications of follicular tonsillitis. Carditis is likely to escape detection; and to prevent this, the heart should be carefully and periodically examined after every attack of soreness of the throat, as otherwise irreparable myocarditis and valvulitis might creep in.

The relationship between chronic nasopharyngeal sepsis and acute rheumatism is not settled; and therefore, tonsillectomy is *not* indicated in all rheumatic children.

Growing pains.—Ache and pains in the limbs, particularly in the lower limbs and localised to muscles generally, are common in paediatric practice. Rheumatic children complain of painful limbs. But all the aches and pains in limbs are not always indicative of active rheumatism. They occur in asthmatic children (Bray); in tuberculosis; during convalescence from debilitating illnesses like measles, influenza, small-pox, typhoid fever and dengue; in chronic indigestion and worm infestations (ankylostomiasis and ascariasis) and associated with flat feet. Sometimes these pains indicate leukæmic infiltrations beneath the periosteum; and congenital syphilis.

Wilfrid Sheldon stresses the relationship of the growing pains to wet weather and fatigue. Treatment in non-rheumatic cases consists in rest and toning up. I find marked improvement with the use of vitamin B complex in these tired children.

Acute rheumatic fever.—An acute infection characterised by multiple arthritis and frequent valvular endocarditis and carditis.

Rheumatic fever is unknown in children below 2 years and articular lesions are slight and overlooked. Recurrent tonsillitis or sorethroat may be the only manifestation or probably endocarditis

may be the only disease process without any other indication. Complications like chorea, pericarditis, anæmia, and subcutaneous nodes are more common.

Prophylaxis is aimed at, by the use of sulpha drugs and penicillin, though there is as yet no unanimity of opinion on this subject.

Treatment of the acute phase of the disease lies in the adequate use of salicylates. Salicylates give specific relief probably "by the breakdown of body-protein, with consequent water loss; and by stimulation of the vagus nerve, with resultant alteration of the acid-base balance." (*The Medical Annual*, 1951).

Rheumatic heart disease.—Endocarditis, particularly mitral disease is common. In children pure incompetence of the mitral valve is common as also pericarditis and stunting of growth in advancing cases.

Rheumatic myocarditis is frequent and leads to cardiac dilatation. With active disease, anæmia, failure to gain weight, tachycardia (even persisting during sleeping hours) and increase of erythrocyte sedimentation rate are present.



FIG. 1. Rheumatic chorea: Hyper-extended fingers and facies are noteworthy.

Pleuritis and bronchopneumonia.—Rheumatic pleurisy is a rare condition. In hospital practice, three children came under my care with signs and symptoms of bronchopneumonia and a mid-diastolic murmur as also septic tonsils, and the condition was suspected to be of the rheumatic type.

Nervous manifestations.—Chorea is common in children and characterised by irregular involuntary muscular spasms and by frequent occurrence of endocarditis. I recollect having seen about a dozen cases every year.

The pictures are self explanatory.

In the treatment of rheumatic chorea, in addition to the usual drugs, Belladenal (Sandoz) was used by me with remarkable success. Parpanit may be tried as also the anti-histaminics.

Periodic handwriting has been a good test for gauging the improvement.

Rheumatic nodules.—Found over the bony prominences like the olecranon, and nuchal lines, the nodules indicate virulence of the disease and deserve great attention. I have not seen many cases in our country.



FIG. 2. Rheumatic chorea: Hyper-extended fingers and characteristic facies are noteworthy.



FIG. 3. Chronic intestinal indigestion (Geographical tongue present). He has apical systolic murmur in addition.

Dermal manifestations.—Erythema marginatum rheumaticum, purpura and erythema nodosum are described.

I have watched a girl of 11 with rheumatic mitral stenosis during a period of five years. On attaining puberty she showed on the shins typical erythema nodosum, the rash corresponding with a recrudescent arthritis, tonsillitis, and præcordial discomfort.

Abdominal manifestations.—The intestine is rich in lymphatic accumulations and there is no reason why certain types of digestive upsets may not herald rheumatic invasion just as sore throats indicate the same enemy. To recapitulate a few experiences of interest:—a girl of 10 years was followed up for 6 years. She is subject to cyclical vomiting and has unhealthy tonsils. Her brother is an asthmatic, and her maternal uncle a typical rheumatic subject. This little girl recently developed severe vomiting and after 2 weeks typical rheumatic chorea. A young adult developed 3 years after what was then regarded as bacillary dysentery typical rheumatic mitral disease. The so-called dysentery never remained cured but was frequently manifesting as colic and loose motions with cellular exudate. Another boy of 10 was diagnosed as suffering from acute appendicitis. Operative treatment was refused. He has been observed by me since the "appendicitis", and found with sore throats and he slowly developed an apical systolic murmur and accentuated pulmonary second sound. Further investigations have suggested chronic appendicitis and mitral heart. Ten years



later the patient was examined and found to have "chronic appendicitis" and confirmed mitral heart. The mother and a sister of this patient are asthmatics; the father is suffering from hyperpiesia (B.P. 210/120 mm. of Hg). The appendicular lymphatic tissue might have served the purpose of a rheumatic sorethroat in the above patient.

A few children with septic tonsils, carious teeth and stomatitis have been watched by me for their digestive upsets usually described as chronic intestinal indigestion. Appetite is poor, tongue is raw and patched with fur; abdomen is doughy with soft and painless hepatic enlargement; anæmia, low fever, constipation or diarrhoea; and the build is below par. This is earlier or later associated with apical systolic murmur like the bruit of mitral regurgitation. My impression is that scenes of rheumatic carditis can set in unnoticed unless the physician remembers this possibility too. The following is a good example. A boy 5 years of age attended the children's clinic of the Government Royapettah Hospital, Madras, for pertussis which was brought well under control. Throat was unhealthy with tonsillar glandular enlargement at the angles of the jaw and the tongue was geographical. The boy slowly developed apical systolic murmur and typified early mitral regurgitation. This is only one of the many watched; and the conviction is that some digestive upsets stealthily develop a carditis.

Myositis, fibrositis, orchitis, torticollis, peritonism: Vague complaints such as these should warn the clinician about a possibility of rheumatic damage in the *Cardiac Capital*, the most important muscles in the body.

#### References:

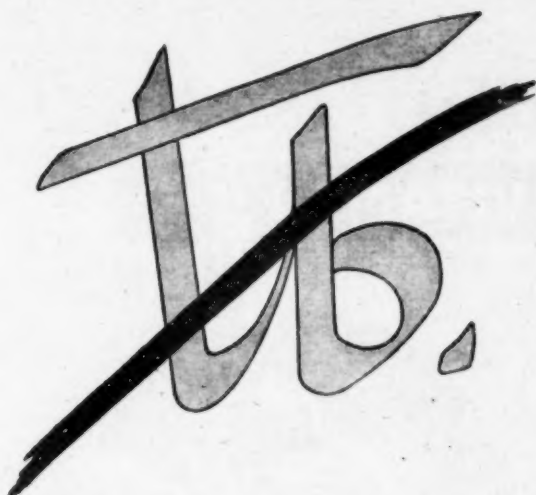
1. Poncher, H. G.—Year Book of Pediatrics, 1950.
2. The Medical Annual, 1951.
3. Sarma, A. V. S.—Journal of the Indian Medical Association, 11-20; 1941.
4. Sarma, A. V. S.—Rheumatic Diseases, The "Antiseptic", August 1949.

---

### Duration of B.C.G. Allergy

Since 1945, 35,000 school children of the younger age groups in Stockholm have been vaccinated with BCG vaccine. On the initiative of the Chief School Medical Officer a follow-up study has been undertaken of some of these children by Dr. H. Enell, who retested them with tuberculin and investigated the subsequent tuberculosis morbidity of the children, according to whether they had or had not been vaccinated with B.C.G. In one school in which 79 per cent of the 1100 children had been vaccinated, 95 per cent (or 827 children) were still tuberculin positive, several years after vaccination. Among all the children who had become tuberculin positive after BCG vaccination, there was not one found at the follow-up examination with demonstrable signs of tuberculosis, whereas they were several cases of clinically demonstrable tuberculosis among children who had not been treated with BCG vaccine.—(Letter from Sweden to J.A.M.A., 26.1.1952).





## PAS - CILAG

*For protracted treatment in all forms  
of Tuberculosis*

### Peroral administration :

Tablets, entero-coated pills and granules,  
containing the free anhydrous acid

### Parenteral application :

Dry sterile crystals of the highly soluble  
sodium salt for ready dilution



*Swiss Pharmaceuticals*

CILAG-HIND LTD. CAWASJI PATEL ST., BOMBAY - 1.

# CALCIUM-SANDOZ<sup>®</sup>

with VITAMIN C



## RESTORATIVE-TONIC-PREVENTIVE

Ampoules for i.v. or i.m. use combining  
Calcium-Sandoz 10% and  
200 mgm. vitamin C in 10cc.

5 cc: boxes of 10, 50, 100

10 cc: boxes of 5, 20, 50, 100

SANDOZ LTD., BASEL (SWITZERLAND)



OBSERVATIONS ON TWINS—A RESUME OF  
CLINICAL EXPERIENCES

A. V. S. SARMA, M.B., B.S., D.O.H. (Lond.), F.D.S. (Lond.),  
Honorary Physician, Government Royapettah Hospital, Madras-14.

DURING the mother's pregnancy, birth, and neonatal periods, the twins deserve special attention. Feeding and nursing deserve great care and the little ones below 3 lbs. birth-weight generally have poor chances of survival.

As twins grow and react to the environment, the clinician learns a great deal from them. The following examples appear noteworthy.

A. 1. Identical twins and congenital syphilis:—Two brothers N and S (9 months old) came under my care for gastro-enteritis. N weighed 3 lbs. and S weighed 3½ lbs. at birth. Both were breast-fed by the mother and also with Horlick's malted milk. N survived and S died.

Parents' blood: Kahn and Wassermann tests both strongly positive. N was watched for six years and found apparently healthy. It is possible that N had even escaped intra-uterine syphilitic infection.

2. Identical twins:—One died in infancy of cirrhosis of liver and his brother died later of chronic interstitial nephritis. (*Vide* essay on cirrhosis of the liver).

3. Identical twins:—Both died of infantile hepatic cirrhosis and both were from a vegetarian family and breast-fed by the mother and also with supplements of cow's milk.

4. Fraternal twins:—The girl-baby developed cirrhosis of liver and the boy at the same age developed atopic eczema. (*Vide* essay on cirrhosis of the liver).

B. Twins (identical) and pyloric stenosis:—Two sisters, each 3 weeks' old were observed. One exhibited symptoms of hypertrophic pyloric stenosis and the other had visible gastric peristalsis but no overt symptoms.

C. Twins (identical) and asthma:—Two brothers are asthmatics. (*Vide* essay on allergic diseases). Such instances are common in daily practice.

D. Twins (identical) and varied allergy:—Two girls (each 4 years) are observed from their birth. One K is a victim of "Cyclic diarrhoea" and the other sister T is a victim of allergic asthma. A sister elder to these (9 years) is an asthmatic as also their mother.

References:

1. Br. Med. Jour., p. 261, 17-2-1940.
2. Sheldon, Wilfrid.—Diseases of Infancy and Childhood, 1946.

## THE VALUE OF VITAMIN C IN THE TREATMENT OF WHOOPING COUGH

D. G. RAMASWAMY, L.I.M.,

Registered Medical Practitioner, Dharmapuri, Salem District.

**A**NTIBIOTICS like aureomycin and chloromycetin and vitamins K and C, have recently come into liberal use in the treatment of pertussis. Large doses of vitamin C have been administered without ill-effects. The daily prophylactic dose of ascorbic acid is stated to be 25 to 75 mg. and the therapeutic daily dose is between 200 and 500 mg.

Meier has during the past six years, used in the Children's Hospital of Berne, Switzerland with significant success massive doses of vitamin C, routinely for whooping cough; moderately severe cases received 500 mg. Vitamin C daily by mouth in divided doses for 2 days, and then gradually decreasing doses every day till 150 mg. was reached by the 10th day. Severe cases received intramuscular injections of 500 mg. daily for one week, followed by 300 mg. daily by mouth, the oral dose was gradually decreased thereafter. Brown *et al* advise the administration of 100 mg. vitamin C daily by mouth, for the common cold. DeWit reports on ninety children suffering from whooping cough, who were given vitamin C 500 mg. daily by mouth or by injection for 7 days, the dose being decreased every other day till it came down to 100 mg. This treatment cut short the duration as well the severity of the disease.

I treated a case of whooping cough with vitamin C, and give my findings below :—

A child, 2 months old, was seen by me on 8-1-'52 with unilateral convulsions of a mild type affecting the left side, subsultus tendinum, abdominal tumidity and a temperature in the axilla of 97°F. On examination, nothing abnormal could be detected in the heart and lungs. Pulse good, 120 per minute; though the child was crying at times, it felt relief on palpating the abdomen. There was no rigidity of the neck; Kernig's sign was not present. Pupils were normal and reacting to light.

Just before the onset of convulsions, the child had a bout of whooping cough. The house, though spacious, was ill-ventilated and over-crowded and the general hygienic condition was not satisfactory. Three other children of the same house (1½ to 5 years of age) were already suffering from pertussis, for about two months. One child was treated with chloromycetin by another doctor, but not with very satisfactory results. Another had vaccine treatment but had not been cured. The third had Ayurvedic treatment with little or no relief.

**TREATMENT:**—I put the child on carminative mixture with Tr. asafoetida and Pot. bromide. Only warm water with glucose was allowed till the next morning. The child had improved by dawn and the tympanites had disappeared. The child was put on the carminative mixture for one more day. The parents were not in favour of treatment with antibiotics for the whooping cough, as they had already become vexed and impatient with the illness of the other children. This child was given a simple alkaline expectorant mixture with bromide, thrice daily. I did not think it advisable to administer Tr. Belladonna, as the baby was too young. So, Celin (50 mg.) tablets, one morning and evening were given by mouth. From the third day, the child had great relief from the whoop and there was also a diminution in the number of attacks. Celin was continued for nine days (100 mg. daily). The mixture was stopped after 4 days. The child was almost cured, except for a little occasional cough.

Points of interest —1. Intracranial congestion was the cause of the convulsions. 2. Aerophagy caused the tympanites. 3. Ascorbic acid 100 mg. daily by mouth had a good therapeutic effect on the whooping cough in this baby, two months old.

#### **Anaphylactic shock following intravenous administration of vitamin B complex**

Severe anaphylactic reactions do occur from parenteral administration of vitamins and for this reason Chitwood and Moore report a case of circulatory collapse, following I. V. injection of vitamin B complex and list several facts which are illustrated by that case, viz:

- (1) Vitamin preparations should be given orally whenever that route is feasible.
- (2) In the few selected cases in which intravenous administration of vitamins is necessary it should be done slowly and probably the preparation should be diluted to avoid speed reactions.
- (3) Any patient who is to receive vitamins parenterally should be questioned closely about any symptoms following previous injections. In this way a sensitivity may be found and thus a severe reaction may be prevented. Weigand (*Geriatrics*, 5: 274-79, 1950) advised a skin sensitivity test prior to parenteral administration of nicotinic acid, in his report of 179 cases of sensitivity to thiamine hydrochloride.
- (4) Epinephrine should be ready at hand, preferably in a syringe when parenteral administration of vitamins is contemplated.
- (5) The circulatory collapse that occurred in the case report caused definite coronary insufficiency, as shown by E.C.G. changes. This possibility should be kept in mind especially in older patients with arteriosclerosis, as myocardial infarction could easily ensue.—(*Jour. Am. Med. Assoc.* 148: 6, pp. 461-462, 1952).



## REPORT ON A CASE OF ENCEPHALITIS LETHARGICA

T. B. KASUDIA, F.C.F.S., M.B., B.S.,  
*Kenya (Br. E. Africa).*

IN Viramgam, a town in Ahmedabad district, I was called to see a patient at 9 a.m. on December 16th of 1950. The wife of the patient supplied the following information. Her husband, aged 30 years was running a flour mill and came home the previous evening in a perfectly normal condition. His health was very good till that day. He took his meals in the evening and went to sleep as usual. He passed urine at 5 a.m. and again went to sleep. When, however in the morning he did not get up at the usual time and the wife could not elicit any response from him to her repeated shouts, she got worried and called other relatives living nearby. They also could not wake him up.

*Personal history* did not reveal anything of significance. No history suggestive of syphilitic infection was available. He was not addicted to any narcotics. There was no history of any recent or remote injury to the skull. The wife had not had any abortions or infant mortality.

*Physical examination* :—The patient was lying quite flat on his back with the left hand drawn over his eyes. Both limbs were completely extended; the patient looked as if he was sleeping very soundly. The respiration was quiet and deep. Rate—18 per minute. The usual protective reflexes were present. The patient moved the left upper extremity to keep off flies from his face and then scratched the part on which the flies had sat.

Temp.—axillary...99°F. Pulse-rate—76/min. Rhythm—regular. Force and tension—normal. Volume—full; equal on both sides. No arterial thickening. Cardiac rate—76/min. No pulse deficit. B P. 124/78 mm. Hg.

Head no evidence of fracture of the skull. No blood from mouth, nostrils or ears. No facial asymmetry. Eyes were closed. Attempt at opening them was resented. Light reflex was sluggish in the right eye and absent in the left. Accommodation reflex could not be tested.

Both pupils were contracted, the left more than the right. Examination of neck, chest and abdomen did not reveal anything of significance. The right upper and lower extremities were parietic. The tone of the muscles was slightly increased on the right side. No involuntary movements were present.

Reflexes :—Conjunctival, abdominal and cremasteric reflexes present. The plantar reflex on the right side was of the extensor type. The supinator, biceps and triceps jerks were equally brisk on both sides.

\* Read at the Gujarat and Kathiawar Provincial Medical Conference at Nadiad in 1951.

The state of consciousness:—Though the patient was oblivious of the surroundings he could be made to respond by repeated shouts of his name, when for a minute or two he would execute the repeatedly given orders to hold the limb up or show his tongue. If given cold water by mouth after taking one or two draughts he would become conscious of his surroundings and will even recognise the persons standing nearby. However, within two or three minutes he will go down and begin to snore in a few seconds.

DIAGNOSIS:—Traumatic conditions were easily excluded. Absence of any odour from the mouth, the suddenness of the onset of coma, the type of coma, the absence of yellow discoloration of the conjunctiva excluded uræmia, diabetic coma and cholæmia. Intoxication by a barbiturate was a possibility but in the absence of any respiratory distress or depression was considered improbable. Cerebral malaria was excluded by the absence of high fever and peripheral circulatory failure. Meningitis was ruled out because of the absence of neck rigidity, Kernig's sign and other signs of meningeal irritation. Systemic infection with cerebral involvement was excluded because of the absence of fever, the signs in other organs and the condition of the pulse. Hypertension was absent. There was no focus from which an embolus could have been dislodged. The mildness of the coma and the blood pressure readings were against cerebral hæmorrhage. A spontaneous subarachnoid hæmorrhage from an aneurysm on the Circle of Willis would have given rise to neck rigidity which was however, absent. To my mind the paralysis on the right side, the aphasia and the pupillary changes appeared to be due to thrombosis. As the man was young it was probably a syphilitic thrombosis. The presence of coma could also be accounted for on the same basis.

He was given Coramine by mouth and an injection of acetylarsan; his condition was the same in the evening and on the next day also, though there was no change for the worse.

The sudden onset, aphasia, paresis on one side, disturbance of sleep, and the pupillary changes conjured up in my mind the picture of encephalitis lethargica.

I had to go only by clinical findings. The diagnosis was important to me but to the relatives the treatment was naturally more important. Though aureomycin and chloromycetin have been considered to be effective in virus diseases, they have not so far been investigated in encephalitis lethargica. As aureomycin was not available in the local market I tried chloromycetin. The patient was given 0.25 gm. every four hours.

On the morning of the 18th December, when I saw the patient again i.e., within 20 hours of starting the treatment with chloromycetin there was remarkable improvement. The patient was quite conscious by 5 a.m. He could now talk though his speech

was indistinct. He recognised persons. He sat up and talked to me. He cleaned his teeth and gargled by himself. He could not however, face light. The pupils were equally though slightly contracted and both reacted to light well but not to accommodation. There was no paresis of the limbs now; however, he still had an inclination to sleep when his mind was not occupied with anything. Chloromycetin was continued in the same dose. On the third day instead of 6 kapseals a day, only four were given in 24 hours. In all 24 kapseals were given. At the end of five days the patient was normal except in two respects:—He was still sleeping more than usual and though he was able to see distant objects very well he could not read at near distance, showing that his accommodation was still defective. When questioned as to what he felt when he was ill, he said that he could not remember anything.

After stopping chloromycetin I gave him 2.5 mg. of Dexedrine, morning and evening to ward off the somnolence. This produced the desired effect. On the fourth day, he did not receive Dexedrine. In the evening I was called in again, because he had gone to sleep. I gave him 2.5 mg. of Dexedrine and within 1 hour he woke up and was his normal self. From then on, he received Dexedrine regularly for about three weeks. There was no intolerance or toxicity to the drug. At the end of the month when I examined him again I could not elicit any physical findings except the absence of the accommodation reflex. However, one peculiar sudden spontaneous disturbance was detected. While he was casually telling me about his relation to Mr. Y., he suddenly began to weep, but only for a minute. Then he started talking just as usual. On enquiry, it was learnt that the same thing occurred three or four times daily.

He complained to me of another difficulty. While walking he had to keep his head tilted a little backwards and upwards, and he could see distant objects quite well, but if he tried to look at near objects he could not see them at once, but only after some time, though in the end he could see everything clearly. This was manifestly due to defective accommodation which is an important feature of encephalitis lethargica.

Summary.—The above case is of interest for the following reasons:—

1. Cases of Parkinsonism are occasionally seen though more often in the streets than in the hospital. This however, is the chronic form of encephalitis lethargica though other conditions may also give rise to the so-called Parkinsonism. But cases of the *acute phase* of encephalitis are seldom if ever seen. This was the first case in my career.
- (2) Encephalitis lethargica is described as occurring in epidemics and is therefore, also known as epidemic encephalitis. This was a sporadic occurrence and I cannot say

whether it was the beginning of an epidemic or not and I did not see any other case thereafter. (3) Though there are no published reports on the effect of Chloromycetin in encephalitis lethargica, its use by me in this case was followed by encouraging results. The acute attack is stated to last at least 2 weeks. In this case however, the attack terminated in less than five days. The use of Chloromycetin therefore, in suitable cases is justified and should be investigated. As the chronic form of encephalitis i.e., Parkinsonism is believed to be due to the persistent activity of the virus rather than to the morbid anatomical sequelæ, it may be tried in cases of Parkinsonism. (4) Dexedrine gave very good results without any untoward effects, in relieving somnolence. (5) Though the clinical features of the case are quite distinctive and cases in the past have been diagnosed on clinical grounds alone, a pathologist's report would greatly add to the value and accuracy of the diagnosis. (6) A virus-diagnostic laboratory, for every state in the first instance, is therefore, a very urgent necessity.

#### *Recent Advances in the Treatment of Bronchial Asthma*

Arbesman carried out a comparative study using various substances, in the treatment of bronchial asthma. He found that the symptoms of asthma were promptly relieved by ACTH and cortisone, but the relief was temporary. ACTH was in fact more efficacious than cortisone, and the periods of relief varied from one to 150 days. The intravenous administration of ACTH was as good as intramuscular injection. But with the former, much smaller amounts of the drug were found adequate, thus reducing cost—which in the case of these expensive drugs is an important factor to consider. Given intravenously a fourth of the quantity or even less is sufficient to produce the same result as a full dose given intramuscularly. Arbesman sounds a note of caution, when he states that from the point of view of side effects and high cost of the two drugs, they should not be used indiscriminately for every case, but should be reserved for cases which resist all other methods of treatment. The elimination of extrinsic factors is the first thing to be attempted, in order to combat allergy. Symptomatic relief is usually obtained with drugs like epinephrine. In mild cases of bronchial asthma, orthoxine hydrochloride, acts like oral ephedrine, but without its stimulating properties; Antihistaminic drugs should not be used to treat an attack of bronchial asthma, but used prophylactically they are quite useful in averting spasms, and also help in preventing allergic reactions from specific drugs. "A real medical emergency is presented by the adrenaline-fast patient. Immediate use of fluids, sedation, and oxygen is in order and aminophylline  $\frac{1}{2}$  to 1 gm. dissolved in 10 to 20 c.c. of distilled water, given intravenously is helpful. Ether and oil as a retention enema, may break up the asthmatic attack and permit adrenaline to become effective again. Bronchoscopy may be essential. Should all these prove of no avail, ACTH or cortisone should then be used."—(*New York State Jour. Med.*, 51: pp. 2361-2369, 1951, *Abst. E.R.S.*, 3: 1952).

## AN INTERESTING CASE OF UNION OF PRACTICALLY COMPLETELY SEVERED LIMB

G. S. BAXI, L.M.P., M.P. (retired), A.M.O.,

*Private Medical Practitioner, Malkapur, Dist. Buldana (Berar).*

I AM citing this case which was treated by me when antibiotics had not been discovered. A girl of about 10 years of age was brought to me for treatment of an injury to her left-hand. While cutting a sugar-cane with a scythe she had accidentally cut her left index-finger a little distal to the second joint. The severed finger was only hanging by a small bit of skin tag about the thickness of a twine.

The only treatment that was called for naturally in this was to separate the finger from its attachment and dress the natural amputation. The parents however, would not consent to this procedure, saying that being a girl, the deformity would be a discounting factor in the matter of her marriage and so insisted that I should somehow preserve severed limb.

It seemed highly improbable to me for the part completely severed to unite again. But when the parents persisted in their demand, I had no option and so I cleaned the severed part antiseptically and kept it in apposition with finger splints with adhesive-plaster with a sling rest to the hand. The girl was sent home as she refused to stay in hospital and was asked to come for inspection of the part a week later. When she came after a week, I did not find the severed limb gangrenous, as expected in the natural course when the total blood supply to the part had been cut off. Without disturbing the dressing as I felt that the union was taking place, I asked the girl to come after another week. When she came after a week I found the severed limb in a healthy state and thinking that by now the union must have been complete, I opened the dressing and to my great joy and surprise I found the severed limb had completely united by first intention. I was in fact prompted to try this union on the basis of the experience narrated to me by a friend of mine, regarding such an accidental union in his great toe. A mark of the union was seen at the base of his toe. He told me that while cutting wood with a sharp instrument, his toe was accidentally cut off and thrown at a distant of a foot. He picked up the toe and kept it in position and bandaged it with a wet-rag and after about 10 days he saw that the toe had become united and whole.

Points of interest.—1. Could circulation through the tiny tag of skin in this case have nourished the severed part?

2. How could the union have taken place when the part was deprived of its blood supply?

3. How was the circulation in the limb maintained when union took place?

4. Was there a possibility of artificial anastomosis?

5. Will surgeons throw somelight on this by citing their own experience in this respect?



### THREE CASES OF AMŒBIC DYSENTERY TREATED WITH AUREOMYCIN

B. S. SONI, M.B., B.S. (BOM.),  
Devgad Baria, Bombay State.

CASES of amœbic dysentery, where the routine treatment for amœbiasis fails, are found to respond to the newer antibiotics, particularly aureomycin. An account of three such cases, treated by me is given in this report.

CASE I.—Miss S., aged 17 years, came to me with history of frequency of stools, 3-4 per day for the last 2 years. The stools were semi-solid in consistency. There was much griping pain in the abdomen.

*Past-illness*:—The patient had an attack of diarrhoea—8 to 10 motions per day, 2½ years ago. The motions contained blood and mucus. The patient treated herself and got relief, but after some time the present complaint started.

*Physical examination*:—The patient was anæmic and under-nourished. There was tenderness in the right iliac fossa. No lump was detected in the abdomen.

*Laboratory investigation*.—Microscopical examination of the stools showed numerous cysts of *E. histolytica*.

TREATMENT:—(1) Inj. emetine gr. i daily for 6 days; (2) Diodoxilin Tab. (Cipla) 2 t.d.s. for 10 days; followed by (3) Carbarsone cap. (gr. 4) 1 b.d. after food for 10 days and then; (4) Yatren (25 gm.) 1 t.d.s. for 10 days.

A mixture containing Bismuth carb. Ext. kurchi, Ext. Bella, and Tr. Bellad. was given, with no relief. After 2 months, the above treatment was repeated, again with no relief. The patient complained of severe pain, in the region of the ascending colon. The motion was examined again, and found to contain numerous cysts of *E. histolytica*.

I then decided to treat the patient with aureomycin, together with other amœbicidal drugs. (a) Aureomycin cap. (25 gm.) one every 4 hours. (b) Stovarsol (4 gr.) ½ tablet t.d.s. (c) The patient was ordered retention enemas of Yatren. After a cleansing enema of Soda-bicarb, 8 oz. of freshly prepared solution of 2½% of Yatren was given. The patient felt difficulty in retaining the enema on the 1st day, but later retained it all right for about 6 hours. On the 5th day of starting the above treatment, the patient felt great relief. The stools were well-formed, and the pain had decreased. The stools showed no cysts; treatment was continued for 3 days more. (Total aureomycin given was 12 gm.) Nausea was the only toxic symptom noticed.

CASE II.—A boy aged 2 years was brought to me for frequency of motions—5 to 6 per day. Duration of illness 4 months. The boy

had an attack of amœbic dysentery 4 months previously. The stools showed, cysts of *E. histolytica*. I treated the patient on the usual lines for amœbic dysentery, with no improvement. So I gave him  $\frac{1}{2}$  dram of Aureomycin 'spersoids' 4 times a day for 6 days. The frequency of stools ceased promptly and for six months now, he has had no recurrence.

CASE III.—A boy aged  $1\frac{1}{2}$  years was brought to me, complaining of 10 to 12 motions per day, with blood and mucus. Duration of illness—2 days. The stools showed vegetative forms of *E. histolytica*, and also R.B.Cs. and pus cells. The patient was given Enterovioform tablet,  $\frac{1}{4}$  t.d.s. and Thalazole tablet  $\frac{1}{4}$  t.d.s. for 5 days, with no improvement. The child's general condition was deteriorating. I put him on Aureomycin spersoids  $\frac{1}{2}$  dram, 4 times a day. On the 3rd day, there was no blood or mucus in the stools. The treatment was continued for 6 days, and the patient was discharged cured.

Summary.—1. Aureomycin is effective in both acute and chronic amœbic dysentery. 2. It is well tolerated by both adults and children. 3. It is not now sufficiently cheap to be within the reach of the average Indian. 4. If it can be had cheap, for use in adequate doses, amœbiasis can be cured in nearly all cases and the disease itself may be eradicated out of existence.

Acknowledgement.—I express my grateful thanks to Dr. S. P. Desai, M.B., B.S. (Bom.), who kindly examined the stools of the above patients.

### Hypertension in Children

McCoy and Nash of the Children's Hospital of Philadelphia have presented an admirably succinct review of hypertension in childhood. The occurrence of temporary or permanent hypertension in association with other disease is not uncommon in children, though unexplained or essential hypertension is exceedingly rare. In the majority of cases, hypertension in children is associated with renal disease, the most frequent cause being acute or chronic glomerulonephritis. Chronic pyelonephritis alone or in combination with obstructive uropathy is also a common cause of hypertension in children and is of particular significance when only one kidney is involved. Though unilateral renal disease is not always associated with hypertension and relief of hypertension following nephrectomy is obtained in a minority of such cases it should be sought for, as a cause of otherwise unexplained hypertension in children. Hypertension in children is occasionally encountered with diseases of the endocrine system, particularly pheochromocytoma and disorders of the adrenal cortex. It also can result from infection of or damage to, the central nervous system, as well as from intracranial tension due to any cause. It may be found in some children with diseases of the heart or great vessels.

Care should be exercised in the selection of the proper cuff for blood pressure determinations in children. Elevation of systolic pressure and an associated tachycardia can be manifestations of apprehension in children, in response to medical examination and proper attention should be accorded to these factors, when the diagnosis of hypertension is made in children.—A Review, *Am. J. Med. Sci.*, pp., 671-680, June, 1952.

# THALOCID

Phthaly Sulphacetamide

*For*

BACILLARY DYSENTERY

ULCERATIVE COLITIS

PRE AND POST-OPERATIVE  
STERILISATION OF THE  
INTESTINES

TYPHOID AND PARA-TYPHOID

FEVERS CHOLERA Etc.

---

# DERMO-QUINOL

(4% Iodochloro-oxyquinoline in a vanishing cream base)

*For*

SEBORRHOEIC DERMATITIS

IMPETIGO

IMPETIGINISED ECZEMA

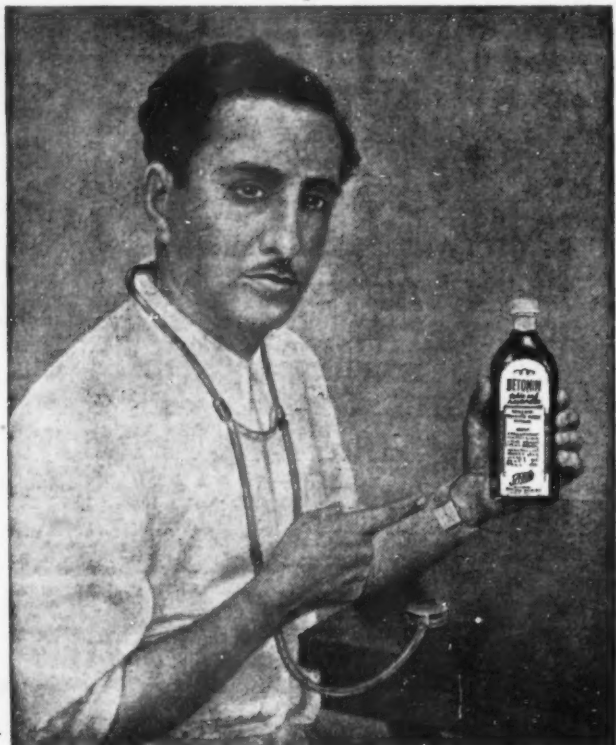
ATHLETE'S FOOT

MONILIASIS

CHRONIC PERIONYCHIA Etc.

*For Further Particulars Please Write to :-*

**East India Pharmaceutical Works Ltd.,**  
CALCUTTA-26.



## IT DEPENDS WHAT YOU MEAN BY TONIC

Some physicians are very strict in their definitions. They will say that strychnine is the only true tonic. Others use the word tonic more widely, to include all those drugs and combinations of drugs which improve the well-being of the patient in convalescence after illness and

at other times when vitality and resistance are low.

BETONIN is a well balanced preparation of strychnine, the glycerophosphates of calcium and manganese, caffeine, ferrous iron and vitamins of the B group in a palatable vehicle.

## BETONIN TONIC & RESTORATIVE

IN BOTTLES OF 8 FL. OZ.

Literature and further information available on request to  
BOOTS PURE DRUG COMPANY (INDIA) LIMITED, P.O. Box 640, Bombay.



# The Antiseptic

A Monthly Journal of Medicine and Surgery

*Published on the 15th of every month.*

Founded by the late Dr. U. RAMA RAU in 1904.

Editor: U. VASUDEVA RAU, M.B., B.S.

Editorial & Publishing Office: 323-34, Tambu Chetty St., Madras-1.

Annual Subscription: Rs. 7-8-0: Foreign—Rs. 10—Post Paid.

Vol. 50

FEBRUARY, 1953

No. 2

## THE CENTRAL COUNCIL OF HEALTH

(INAUGURATED ON 29th JANUARY '53)

THE Union Health Minister Srimathi RAJKUMARI AMRIT KAUR inaugurated the First Session of the Central Council of Health, on the 29th ultimo at Hyderabad. The Minister who is also the Chairman of this newly constituted Council said that the health of a nation, in particular its children and youth, was its most priceless asset. "Health and Education" said she, "were nation-building activities, without adequate attention to which, no real progress could be expected. It was not desirable to wait for big projects to fructify before health and education of the people were attended to." We have ourselves been constantly harping on this very theme for quite a long time now, and have time and again pointed out in these columns the imperative necessity of placing the horse before the cart, if the wheels should move along and lead us to the happy goal of a prosperous India. The projects take up considerable sums of money and leave but little to these nation-building activities, which are really starved and this starvation is seen boldly reflected in the starved, emaciated and sickly condition of the majority of our people. The labour available for employment on the projects is necessarily of a very poor quality and the work turned out by such half-starved labourers lacking physical and mental stamina cannot be expected, by any means to reach a high level. The enormous expenditure incurred on such labour is therefore, out of all proportion to the poor work turned out. If the general level of Health is sought to be improved first or at all events atleast simultaneously, there is bound to be an infinitely better out-turn of work and consequently a larger return



for the moneys spent. The Union Health Minister was obviously in this frame of mind when she stated at Hyderabad the other day. "I often wish the economists would sometimes turn their attention to human values instead of always dwelling on standards of life in purely material terms."

The Union Minister for Health, detailed the main function of the Central Council of Health, which was to consider and recommend broad lines of policy in regard to all matters concerning health in all its varied aspects and make proposals for legislation in fields of activity relating to medicine and public health. This Council will make also recommendations to the Union Government regarding the distribution of available grants-in-aid for health purposes to the various States and establish an organization for promoting and maintaining co-operation between the Central and the State health administrations. The Council will meet atleast once a year. "The language of the human heart is *one*" said the RAJKUMARI, "and the cry of suffering humanity rings in my ears from every corner of our great land. Suffering must be mitigated. There may be no lowering of standards of the medical aid and relief we give and there must be before us who work for this great cause, nothing but the high ideals of selfless and devoted service." Noble sentiments were never more feelingly expressed! Speaking at Calcutta in December last year at a Cancer Hospital, she expressed her feeling of helplessness, because she could not get the Finance Minister to give larger grants for Health, as he had not any to spare, and she lamented that she was fighting a *lonely* battle, as the medical men in the country were not sufficiently *vocal*.

During recent months, we have been treated to several such utterances from the Union Minister for Health, delivered in the same strain and we are indeed inclined heartily to sympathise with her and applaud her great zeal and selfless devotion to the cause which she is so stoutly championing in the face of odds. And it is our firm belief that given more vocal, more sympathetic and much stronger support and hearty co-operation from the medical profession as well as from the dumb suffering millions in the rural areas. RAJKUMARI AMRIT KAUR may be enabled to translate her speeches and intentions into concrete action, calculated to benefit the masses and to provide suitable robust and healthy labour personnel which may be depended upon to execute the works more efficiently and substantially and in a much shorter time, thus effecting considerable savings to the Government and to the nation, by such speedy, efficient and economic execution of large scale productive projects.

Dr. A. L. MUDALIAR, Vice-Chancellor of the Madras University who spoke on this memorable occasion, emphasised the urgent necessity for starting and establishing a Central All India Medical Institute, as a centre of post-graduate training and research, not

only in Medicine and Public Health but also in the allied sciences, such as Public Health, Engineering, Nutrition etc., and for manning this important institution with a full time Director assisted by highly qualified full time professors, who should not only be erudite in their respective Professions but should have a *flair* for work and an almost religious zeal to place the Institute in the front rank of post-graduate centres in the world. Such professors should be recruited from among the highly talented and most experienced members of the profession and should be offered attractive terms, in the matter of pay, prospects and tenure, that would enable these officers to devote their whole time and attention enthusiastically to the work of the Institute and without distraction caused by worries and cares resulting from wants and privations.

### TENTH TUBERCULOSIS WORKERS' CONFERENCE, MYSORE

INAUGURATING the Tenth Tuberculosis Workers' Conference at Mysore on Monday the 2nd instant, RAJKUMARI AMRIT KAUR, the Union Health Minister and the President of the Tuberculosis Association of India, said "The more I ponder over the tuberculosis problem and the incalculable suffering it inflicts on individuals, their families and the nation as a whole, the more convinced I become that the situation needs the maximum attention not merely of experts, social organizations and governments but of the entire community. As time passes the enormity and the complexity of the tuberculosis problem in India becomes more and more evident, particularly against the depressing knowledge that the facilities available to arrest the spread of this disease are extremely limited". She referred to the BCG campaign as a silver lining to the cloud, and she was glad that the people of India are gradually waking up to the realities of the situation. Up to the end of December 1952, thirteen million persons were tuberculin-tested and 4.2 million have been BCG-vaccinated. "These are by no means imposing for a large country with nearly 357 million people of whom roughly one half (170 million) require testing and vaccination; but still the figures are encouraging. "The Planning Commission has given priority to this preventive programme, but" said the Union Minister "provision for other aspects of tuberculosis control *could have been more liberal*". The Central Council of Health which met a couple of days earlier at Hyderabad recommended to the various States governments to proceed vigorously with the mass BCG vaccination. She felt that governments should also encourage all non-official organizations who wished to establish or had established T.B. institutions, by giving liberal grants for their building and maintenance provided they were run on sound lines and on a non-profit basis. Referring to

the treatment of patients she said the number of beds had increased from about 5000 in 1947 to over 13000 in 1952 and she hoped that the number would come up to 50,000 by 1956. The Government of India and the Tuberculosis Association of India had taken up in right earnest the question of rehabilitation of the tubercular, especially regarding their employment in Government and commercial organizations. Educative propaganda in this regard has made great progress.

As Dr. B. B. LAL of Calcutta who was to have presided, was now away in France, Dr. K. L. WIG of the Amritsar Medical College presided and read Dr. LAL's address, in the course of which Dr. LAL presented certain epidemiological features and pleaded for the formulation of more liberal policies in the light of the prevailing Indian conditions. Dr. LAL rightly pointed out that the main factors responsible for the high incidence of tuberculosis in India, were the density of the population, social and religious customs of the people, severe malnutrition, a low standard of living, bad housing conditions and poor general hygiene. The rapidly increasing urbanisation and industrialisation, and the introduction of quick transport facilities also played their part. "It was the view of Dr. LAL that on account of the magnitude of the problem, the campaign against Tuberculosis should form part and parcel of the general medical and health administration of the State both in the Centre and in the States and also the medical curriculum should be so organised that future general practitioners became well-equipped with the necessary knowledge to tackle this problem both in its curative and preventive aspects."

The conference was attended by more than 250 delegates from all over India. Dr. P. V. BENJAMIN, Technical Adviser of the Association and Tuberculosis Adviser to the Government of India addressed the Conference on the contribution of voluntary organizations in the Anti-Tuberculosis campaign and this was followed by a discussion which stressed the urgency and importance of further concentration on this aspect of Tuberculosis control.

During the 4 days' sittings of the Conference, important papers were read and discussed. Dr. K. S. RANGANATHAN, Director of the BCG Vaccine Laboratory, Guindy, Madras referred to the lower allergy shown by Indian children after BCG vaccination and said that the reduction of the post-vaccination-testing-dose to 5 T.U. was probably the chief cause, although it was possible that other non-specific factors, climatic and racial which are known to have an inhibitory effect on the tuberculin reaction in Indian children, also operated. He made an urgent plea for raising the dose of tuberculin for controlling BCG allergy, which is naturally weaker than natural allergy. This would enable the test to show up a wider range of allergy following vaccination and also help to overcome to

some extent, the adverse effects of non-specific factors. He appealed to the BCG medical officers to consider the follow-up of selected groups of vaccinated children as important as the vaccination itself and to undertake such studies at periodic intervals so as to have a check on the vaccine and vaccination technique. Dr. FRIMODT MOLLER also stressed that retesting and follow-up studies after BCG vaccination, were essential. Drs. DHARMENDRA, MAZUMDAR and MOOKHERJEE of Calcutta, in a very interesting and informative paper discussed the possible role of *BCG vaccination as a prophylaxis against leprosy*; they based their arguments on recent findings that suggested a correlation between the results of the Mantoux and lepromin tests and the possibility of changing a negative lepromin reaction into a positive lepromin reaction, in experimental animals and in human subjects by BCG vaccination. If such a prophylactic role could be definitely established and fully demonstrated, it would really mean a huge big step forward in the solution of the extremely difficult problem of leprosy control, particularly in countries like India, where infective cases of leprosy are far too many to be isolated in institutions. Further important lines of research in this direction have been planned and are under weigh. Dr. T. L. NARAYANAN of the Mysore Princess Cheluvamba Tuberculosis Clinic, reported that Vitamin B deficiency produced lesions in the lungs similar to pulmonary tuberculosis. Niacinamide given intravenously produced clinical cures in such cases. Extended use of the same drug in intestinal tuberculosis gave the same results. This was followed by several reports from workers in different parts of India, on the results of using the new "wonder-drug" Isonicotinic Acid Hydrazide (I. N. H.). Thus Dr. SEN, representing the Special Government Committee of West Bengal, Dr. WIG of Amritsar, Dr. YODH, Dr. DINGLEY, Dr. SIKHAND of Delhi, Dr. SHERWOOD HALL of Ajmer, and others related their experiences in treating advanced cases of pulmonary tuberculosis with I.N.H. There was an almost unanimous consensus of opinion about the usefulness and value of the drug in controlling temperature and cough, in reducing the quantity of expectoration and in creating a general sense of well-being. A rapid gain in weight was also recorded. The E. S. R. was lowered in most cases. Marked radiological improvement and sputum conversion occurred however, only in a comparatively very small number of cases. The opinion expressed by Dr. SHERWOOD HALL of the Madar Union Sanatorium, Madar, Ajmer, that INH is *not* a "wonder-drug" as it was first thought to be and that except in the minimal cases it cannot by itself control the disease, appeared to be shared by all the other workers who had carried out controlled clinical trials with the drug. It is however, considered a good adjunct to other forms of treatment and its "greatest asset is in making previously inoperable cases operable, particularly so in cases where the previous use of streptomycin had made them resistant to that antibiotic".



Dr. R. H. BETTS of the Vellore Mission Hospital presented an interesting report on 4 cases of tuberculous constrictive pericarditis, which he treated surgically and said that better results would be obtained, if the constricting thickened membrane is removed before the process had gone on to complete fibrosis and infiltration of the myocardium. Major K. N. RAO and Drs. P. R. MUDALIAR and C. VISAKHAM of the Tambaram Sanatorium, Madras presented a very illuminating review of 55 cases in which new plastic plombage materials were employed in the surgical collapse therapy of pulmonary tuberculosis. The reasons for their preferring polyethylene pack and the advantages claimed for plombage over the standard thoracoplasty operation were also explained. The methods of preventing and dealing with residual cavities after collapse therapy formed the subject of an instructive paper by Dr. JOSEPH of the Lady Linlithgow Sanatorium at Kasauli. Drs. NAG, CHAKRAVERTY and ADHYA of the Calcutta Chest Hospital found the Carl-Semb technique superior to the standard thoracoplasty in 25 of their cases, as this modified technique resulted in very little deformity and left a normally functioning limb.

The incidence of tuberculosis in rural areas adjoining large industrial centres was investigated by Drs. LAL and others of Calcutta in 20 villages in the Hooghly district of West Bengal; active lesions were found in 7 per cent of the total population but the tuberculosis rate was only about 1 per cent. The dusty jute industry of Bengal formed the subject of a survey by Drs. UKIL and SEN of Calcutta who found in the 4816 workers in a factory, the infection rate was 81% and the disease rate only 3.7%. Drs. SIKAND and RAJ NARAIN of Delhi presented a preliminary report on the incidence of tuberculosis in Textile mill workers in Delhi. There were also some other interesting papers and several members participated in the discussions that followed.

---

## THE FIGHT AGAINST CANCER

THE need for sustained research in the diagnosis and treatment of this dreaded disease Cancer, was emphasized at the inauguration of the All India Centre in Bombay on the 30th December 1952 by RAJKUMARI AMRIT KAUR, the Union Health Minister, by Dr. V. R. KHANOLKAR President of the International Cancer Research Commission and by several other distinguished men connected with this problem.

The Indian Cancer Research Centre affords proof of what can be achieved by joint effort, and by pooling together all available resources. Powerful organizations were combating cancer in various countries, and colossal sums of money have been collected and spent in fighting cancer in those countries. The American Cancer



Society has for example, collected nearly 35 crores of rupees in the 12 years of its existence. Sweden with its much smaller population has pooled together about 10 lakhs of rupees in a comparatively shorter time.

Dr. KHANOLKAR the first Director of this Institute, is one of India's best Research Scientists, whose cancer researches have received worldwide recognition and who has earned the rare distinction of being the first Asian, to be the President of the International Cancer Research Commission, the annual Session of which was inaugurated by the Union Health Minister at Bombay.

Dr. KHANOLKAR rightly observed at the conference that Cancer was not a regional problem as it affected the whole world. Said he "It is probably the first time that an Institute for fundamental researches on a single disease in association with a specialised hospital, (The Tata's) was being established in India."

That the problem of Cancer is becoming increasingly important is manifest from the fact that comprehensive surveys are being undertaken in many countries and intensive researches on the aetiology, diagnosis and treatment are being vigorously pursued by eminent scientists all over the world. Prof. ELLIS BERVEN of Sweden who was in Madras last month, speaking before the Indian Medical and Radiological Associations, related the measures undertaken in Sweden for fighting cancer. There were about 15000 new cases of cancer every year; and their aim in Sweden was to have 100 beds for every million of the population though they had not yet attained this figure. Their out-patient departments in Cancer Hospitals differed in several respects from those of other hospitals. They served as a cancer detection centre, and any one who suspected a malignant tumour could pay a visit and get diagnosed. Re-examination of previously treated cases was another function of this department and treated patients came back for check-up regularly four times in the first year and thrice in the second year. In Sweden, it was considered important not only to teach doctors about cancerous conditions, and the early symptoms of cancer but also to carry on propaganda amongst the public so that they may recognize early symptoms of cancer. An adequate number of beds and sufficient quantities of radium were always made available and kept ready. Well-to-do patients paid a fee—the equivalent of Rs. 2 or Rs. 3, depending on the method of treatment. Dr. BERVEN was impressed with the research work he saw being carried out in Bombay, Delhi and Calcutta. Dr. (Mrs.) MUTHULAKSHMI REDDI who has been doing pioneer work in Madras on the cancer problem, for the last 4 years discussed with Prof. BERVEN the various aspects of cancer research and propaganda. Dr. E. V. COWDRY the American Cancer Specialist, who has been in India for some time, engaged on Cancer-research organisation also helped her with advice and suggestions.

The advances made in Cancer treatment in Madras have been more or less synonymous with the advances in the methods of treatment by surgery and radium therapy. "Since the treatment of cancer was mainly by radiation therapy, the progress made in the Madras State may be divided into 3 stages:—The first stage takes us up to 1934, till which time the State Hospitals in Madras City could offer nothing else except surgical excisions for cancer. With the coming into being of the Barnard Institute of Radiology in 1934, the second stage began and with it a beginning was made in the treatment of cancer. With the termination of the last Great World War we may say that the third stage was reached and from 1945 onwards considerable progress has been possible, due both to the very sympathetic attitude of the State Government and to the energy and enthusiasm evinced by the Medical Officers. Provision of over 200 beds exclusively for the treatment of cancer patients in Madras City has been already made. The Barnard Institute of Radiology has been equipped with the most up-to-date X-ray apparatuses both for diagnosis and treatment. A separate large radium ward, with attached theatre and staff and an adequate supply of radium has been made available. An expert staff consisting of the Director of the Barnard Institute, the Professor of Pathology and the Surgeon concerned, review the cancer patients and decide on the line of expert treatment to be given. Along with the provision of such facilities in the General Hospital, Madras, similar provision has been also made for the treatment of cancer of the generative organs in the Women and Children Hospital, Egmore. Up-to-date deep-X-ray apparatuses and a considerable quantity of radium are now available". Here also the patients will be treated by experts in the line. With the coming into existence of the Indian Cancer Research Institute at Bombay, it may be fervently hoped that fresh researches along hopeful lines will be launched to determine the causative factors and also discover some specific drug or drugs for the complete cure of cancer.

### Pleurisy

The true *prognosis* of tuberculous pleurisy is not often appreciated. Several large-scale follow-up series indicate that about 30 per cent of all these cases develop post-primary pulmonary tuberculosis, mostly within two years, but all within five years of the original effusion. This is serious, for most of the patients in question received what is generally accepted as adequate bed-rest and convalescence. Our present treatment, therefore, of primary tuberculosis cannot be regarded with complacency. Various workers are at present trying to see if such measures as phrenic nerve interruption or chemotherapy will ultimately reduce this high rate of post-effusion tuberculosis. Dr. M. O. J. Gibson, M.D., M.R.C.P. (Lon.), Consultant Chest Physician of the Dartford area in London has been treating these patients initially with an eight weeks' course of streptomycin, PAS and isonicotinic acid hydrazide; but he says that several years must elapse before it can be seen if this therapy is beneficial.—(*The Med. Press*, 31-12-1952).

MEDICINE AND THERAPEUTICS

**Condition of the heart following beri-beri and malnutrition.**—(Griffith, R. L., *A.M.A., Arch. Ind. Med.* 89; 5, 743-759, 1952).

Beri-beri is recognized as an infrequent but definite cause of heart failure. Although beri-beri heart disease can be severe and frequently fatal in its acute stage, there is very little in the medical literature on the end-result of this type of heart disease, nor has it been shown by actual experimental study whether persons who recover from beri-beri may have a chronic form of beri-beri heart disease. Griffith presents the results of a most carefully planned and well conducted study of the cardiac condition of 109 men who survived the acute effects of beri-beri and severe malnutrition suffered during 44 months in Japanese prisons during World-War II. These men, whose ages ranged from 25 to 69 were seen at various times between 1945 and 1951. They were apparently in good health before imprisonment and were treated for beri-beri after release from prison. As stated above, the purpose of the study was to determine whether beri-beri, which causes acute myocardial failure leaves any residual heart disease.

One hundred and one of the 109 men or 92.7% had no evidence of heart disease from the history, physical examination, X-rays for heart-size, ECG, or other studies. Five men had definite heart disease of whom two had inactive rheumatic heart disease, one had a myocardial infarction, one had arteriosclerotic disease of the heart. Of the 101 without evidence of heart disease, 3 had hypertension without evidence of heart strain, 2 had generalised arteriosclerosis without heart disease, and two had questionable cardiac symptoms, which were believed to be on a functional basis. All the cases of cardiovascular disease could be accounted for on the basis of some cause other than beri-beri.

The conditions most frequently seen

in acute beri-beri heart disease such as oedema, enlargement of the heart, low amplitude of the heart, QRS complexes, prolongation of the QT interval and flattening of the T waves were not found. In general, the blood pressures, heart-rates, haemoglobin levels, and serum proteins were all normal.

**Fluid retentions of normal and toxæmic pregnancies treated with a cation exchange resin.**—(Penman, W. R., *Am. Jour. Med. Sci.*, 223; 6, June '52).

Penman described in 1951 the use of a cation exchange resin in the management of fluid retention in normal and toxæmic pregnancy in hospitalized cases. He next studied the problem in out-patients, in order to study the problem in out-patients, in order to determine how great a part the hospital diet had played in the response, and to what extent the resin could be used safely without laboratory control. In this second series Penman included several patients with abnormalities other than fluid retention.

Twenty-six pregnant women from 18 to 36 years of age with oedema were selected. 8 were primigravidae; the others were multiparæ. In 13 of the patients oedema was first observed between the 20th and 32nd weeks of pregnancy; in the other half, between the 33rd and 38th weeks. 22 of the 26 were clinic patients. All but one received the treatment as out-patients and 7 of them were later admitted to hospital for observations or for treatment of their oedema or other condition. The potassium and ammonium form of a cross-linked polyacrylic polycarboxylic cation exchange resin (Resodex—SKF Lab) was used. Each patient was supplied with enough resin to last 7 days at the usual dose of 15 gm. of the resin thrice a day. Each was told of the need for resin therapy and of the importance of restricting her use of salt and salty foods

and each was advised to take the resin with meals or disperse in grapefruit juice, pine apple juice or cola beverages. During each visit, their B.P., weight and the presence or absence of clinical oedema were determined. The results of the treatment of this series of 26 cases are summarised by Penman as follows:—Of the 26 pregnant women (a) eight, because they objected to the drug or delivered soon after the first dose, did not take it long enough to provide data of value. (b) eight realized complete disappearance of the oedema, accompanied by a substantial loss of weight. (c) nine realized a reduction in oedema and weight. (d) one showed no improvement. The resin therapy proved especially valuable in keeping a patient with severe rheumatic heart disease at "dry weight"; it did not prevent the development of pre-eclampsia; it appeared to mobilize excessive amniotic fluid: it proved safe.

**Chemotherapy of pulmonary tuberculosis**—Dr. D. D. Vora writing in the *Indian Practitioner*, January '53 divides the period of treatment of pulmonary tuberculosis into the pre-streptomycin period, the streptomycin period and the period of combined treatment. The pre-streptomycin period involved the use of gold compounds like sodium, auro-thio-sulphate. The effects of this treatment were not uniform, the side effects were many, such as toxic nephritis, hepatitis, peripheral neuritis etc. and the treatment had to be supported by excellent general treatment of the patient. The streptomycin period saw the use of streptomycin which still holds sway over the other anti-tubercular drugs as the single most effective anti-tubercular medicine. The original dosage was rather heavy with 2 grammes per day which was given over a period of 120 to 180 days. This prolonged treatment was found to have 2 defects; the first and foremost defect was that streptomycin had certain toxic effects, chief among which was damage to the vestibular part of the 8th cranial nerve and second was that the indiscriminate use of this drug led to drug-fastness. These disadvantages were later overcome by minimising the daily dose of strepto-

mycin to half to one gramme per day, given usually over 90 to 120 days. In addition streptomycin was combined with P.A.S., a substance which when given together with parenteral streptomycin was found to reduce the percentage of streptomycin-fast tubercle bacilli. This substance was included in the period of combined treatment. Para-amino salicylic acid was given orally in the dosage of 10 to 12 grammes per day together with parenteral streptomycin. The toxic effects were few, the effect of streptomycin was enhanced and the Tuberculosis specialists soon found that they had a balanced combination of drugs for the treatment of tuberculosis. The latest antibiotics among which the most important is Iso-nicotinic acid hydrazide seem to herald a new era in anti-tubercular treatment. It is said that those cases which do not respond to streptomycin and PAS and those cases which are streptomycin-resistant fare well with these compounds. The usual dose of Iso-nicotinic acid hydrazide is 2 to 4 mg. per kilogramme of body weight daily. The toxic effects of this drug were few. Perhaps the only disadvantage was the development of resistant strains of tubercle bacilli. Two other new antibiotics about which much is not yet known are Neomycin and Viomycin. These are still in the experimental stage and have not come into daily use.

**Treatment of pulmonary tuberculosis with isoniazid.**—(Report to Medical Research Council, *Br. Med. Jour.*, 4-10-1952).

The Tuberculosis Chemotherapy Trials Committee appointed by the M.R.C. carried out control tests in 39 hospitals in England. At the end of three months' treatment, the chest X-ray films were independently assessed. The results for the 331 patients whose treatment for the trial started before 1-6-1952 and who, therefore, by the end of August 1952, had completed at least three months' treatment, were considered sufficiently important to warrant this interim report. The main comparison for the initial stage of the trial, was to be between streptomycin plus PAS (SP) on the one hand and



isoniazid alone (H) on the other. In one group (chronic forms not expected to respond to chemotherapy) streptomycin *plus* isoniazid was tried. The dosage of the drugs was as follows:—*Streptomycin* (not dihydrostreptomycin) 1 gm. daily in one intramuscular injection, (children under 15: 15 mg. per kg. of body weight daily up to a maximum of 1 gm.) *PAS*, 20 gm. of the sodium salt daily in 4 doses by mouth. (Children under 15: 1 gm. per 3 kg. of body weight daily; up to a maximum of 20 gm.: *Isoniazid*: 200 mg. daily in 2 tablets of 100 mg. given 12 hourly by mouth (children under 15: 3 mg. per kg. of body weight daily up to a maximum of 200 mg.)

173 out of the 331 patients (with various forms of pulmonary tuberculosis) were treated with isoniazid (200 mg. daily) and 158 with streptomycin (1 gm. daily) *plus* *PAS* (20 gm. daily). Treatment was randomly allocated in all cases and at the time of selecting a patient the treatment which he would receive was unknown to the physician. The *British Medical Journal* commenting editorially on the results obtained at the end of the three months' test period, says "the results with isoniazid are comparable to those with streptomycin combined with *PAS*. The only statistically significant difference between the two regimes was in the amount of weight gained by patients; there was significantly greater increase in those treated with isoniazid. The improvement in the general condition of the patients on isoniazid was also a little greater, perhaps owing to the absence of the nausea and anorexia often associated with *PAS*. To offset these advantages, streptomycin and *PAS* were rather more effective in reducing fever and the erythrocyte sedimentation rate, in converting the sputum from positive to negative, and in improving the radiographic appearance of the disease; but the differences are not great and are certainly not statistically significant. In patients with acute disease these differences are smaller still, or even to the advantage of isoniazid.

In the doses used, and over the period of observation, isoniazid was

remarkably free from toxicity. In only one patient out of 173, was it thought necessary to stop the drug, whereas streptomycin and *PAS* were discontinued in seven cases. A number of side-effects of isoniazid were reported, including drowsiness, exaggeration of deep reflexes, tremor of limbs, twitching of the legs, disturbances of micturition, "nervousness", constipation transient flushing of the face, pruritus and desquamation of the skin. This may seem a formidable list, but the effects were observed in only a small number of the patients and are such as might well be recorded in any group of patients subjected to close observation and inquiry.

Unfortunately isoniazid is shown to have one very grave disadvantage: drug-resistant bacilli have quickly appeared in patients treated with it. Of those whose sputum remained positive, isoniazid-resistant tubercle bacilli were isolated from 10% after treatment for one month, from 50% after 2 months, and from 70% after three months. Moreover, there was less improvement in the patients from whom resistant bacilli were isolated, even allowing for the tendency for resistant organisms to emerge in the more severely ill. It seems, therefore, that isoniazid-resistance is of clinical significance. The combined use of isoniazid with streptomycin and with *PAS* is at present under trial, with the object of finding out if the emergence of resistant organisms can be prevented. So far isoniazid resistant bacilli have been isolated from only two patients out of eleven, treated for two months with streptomycin and isoniazid together: in both these patients the organisms were found to have been streptomycin-resistant at the start of treatment. But results in such a small number of cases can be suggestive only, and it is not yet known whether isoniazid reciprocally diminishes the emergence of streptomycin-resistant bacilli.

It is clear from this preliminary report that isoniazid is a very effective antituberculous drug, but that in view of the ready emergence of drug-resistant organisms it should in general not be given alone. Until it is determined whether either streptomycin or *PAS*



given together with isoniazid, effectively and reciprocally diminishes the incidence of resistance to both the drugs used, it will be wise not to use isoniazid even in combination except on limited indications.

#### Hazards of butazolidine therapy.

—(Correspondence, *Lancet*, 25.10.1952).

Early reports on Butazolidine were very favourable and it came to be widely used; in the British Isles over 100,000 patients are stated to have received this drug. The first warnings that butazolidine is not so free from serious toxic effects as was at first supposed, have already appeared (*Lancet*, pp. 197, 587, 682, 1952). Dr. Crowther and Elgood of Queen Mary's Hospital, London, report a case of jaundice and agranulocytosis, due to butazolidine. Dr. Jarvis of the Croydon Hospital, London reports the case of a woman aged 59, with rheumatoid arthritis, who was treated exclusively with 1.2 g. daily of butazolidine by mouth for 7 days, and developed maculopapular eruptions on the face and abdomen, cellulitis of the breast with enlarged lymph nodes, breathlessness, indigestion and stomatitis. Three weeks after the commencement of the

treatment with butazolidine (which was however stopped after 7 days) she was very ill with high fever, and the blood picture showed the following features:—white cells 4000 per c.mm. (neutrophils 4%, eosinophils 0%, basophils 1%, lymphocytes 40%, monocytes 11%, myelocytes 3%, metamyelocytes 41%) platelets 250,000 per c.mm. E.S.R., 112 mm. in first hour (Westergren). Sputum showed staphylo and streptococci and yeasts. With antibiotic treatment, nucleotide and pyridoxine she got round. The patients' symptoms were all manifestly due to butazolidine therapy. Dr. Tait of Dewsbury cites a case of rh: arthritis who developed fever, 104°F., with a generalized rash and severe neutropenia.

The above three case reports clearly indicate that:—(1) Butazolidine is a dangerous drug; (2) 1.2 g. per day is probably a dangerously high dosage; (3) a white blood-cell count should be made before starting treatment with this drug; (4) further counts should be made at least once a week, if not oftener while the treatment with this drug is being continued; (5) any definite fall in the number of polymorph cells is a contra-indication to further butazolidine administration.

### PSYCHIATRY AND PSYCHOTHERAPY

**Psychosomatic disorders of childhood and adolescence.**—(Wolff E., and Bayer, L. M., *Am. Jour. Orthopsych.*, 22: 3, 510-521, July 1952)

Some dynamic aspects of psychosomatic disorders of childhood and adolescence are presented.

Bodily symptoms in emotionally disturbed children are to be viewed as attempted solutions of conflicts. The psycho-biological maturation level, the suitability of the organ, and the interpersonal attitudes of significant figures are the factors which determine the choice of organ for somatic discharge.

Clinically speaking, disturbances in the equilibrium of the individual within the somatic frame give rise to psychosomatic symptoms. Anorexia nervosa for example, is a failure of the storage mechanism. The area of origin and

that of personality in which a conflict is staged are two distinct things. But in the young child these two almost coincide. Simple parental guidance may resolve a few of these conflicts. Conflicts internalized in the child do not so readily lend themselves for easy handling. Disorders of eating, sleeping and elimination are cited as examples of early psycho-somatic symptoms. Failures at the sensory-oral stage or the muscular-anal stage are indicative of a losing struggle between the *id* and its sources of satisfaction. It is at the loco-motor genital stage that the super-ego sometimes engages in conflict with the *id* and/or *ego*. Bizarre sleep disturbances, general anxiety reaction, gastro-intestinal and sensory conversion symptoms are a few of the well-known psychosomatic expressions of conflicts at this stage.

Another aspect of topography is associated with the pathological psychic states within the parents. This is projected as disease on the normal soma of the child. The topography of adolescent conflicts is complex and wider. However, the developmental origin, the somatic frame, the intra and the inter-personal attitudes determine the choice of the organ and the symptom. Symbolic mechanism, reflex disturbances and homeostatic disturbances are involved in somatic expressions. Enuresis in children and obesity in adolescents are discussed next as psycho-somatic problems.

The first stage in the development of urinary control in children is associated with the sensory—oral stage. Psychologically it is the stage of the predominance of the *id* when the child becomes conscious of urination. The second stage is associated with the muscular anal control, i.e., the stage of ego development, when the child tries to establish conscious control of urine in day time. The third stage is associated with super-ego development when night time unconscious control is established. In a large majority of cases the problem of the prevention of enuresis in children becomes simply a problem of benign guidance through the formative years. The paediatrician should deal with both the parents and the child. In the former he should effect a change in the inter-personal relationships and he should strengthen and support the growing capacity of the Ego in the child.

The origin of adolescent obesity is often rooted in the normal pre-menstrual growth spurt. Obesity may represent any of the three possible mechanisms of symptom formation. Over-eating may be a response to the physiological discomfort accompanying anxiety, it may be a long established reflex reaction to any frustration, or it may serve a symbolic purpose.

Thus a knowledge of the theories of modern psychology will assist the paediatrician in the diagnosis and treatment of his somatic cases.

The effect of sex hormones in oligophrenia.—(Rudolf, G. De. M., *Br. J. Psych.*, April 1952; pp. 294-298).

The effect of sex hormones on mental defectives is discussed in this article.

Stilboestrol in the case of males and perandren in the case of females were given in doses of .12 mg. to .25 mg. (t.d.s.) to four boys and seven youths and 5 mg. to 10 mg. of perandren to three girls in their teens.

1. During treatment the author observed changes in the mental condition of 13 mental defectives out of 14. The girls became duller whereas the boys showed greater mental activity.

2. Though a tendency for the intelligence quotient to rise and the social quotient to fall was observed during treatment, the final figures indicate no significant change.

3. The treatment produced certain undesirable physical changes such as menstrual vomiting with reduced inter-menstrual periods in the girls and gynecomastia in the males.

4. Within a few weeks of the cessation of treatment the mental condition was restored to the pre-treatment level.

Enquiries into attempted suicide.—(Stengal, E., *Proc. Roy. Soc. Med.*, Vol. 45: 613-627, Sept. '52).

1. A scrutiny of the London Police register for suicides and attempted suicides for the years 1936 to 1950, a follow-up investigation carried out by the author jointly with Dr. Krægar and Miss. Cook of 138 patients in St. Francis Hospital, South East London, and a review of Dahlgren's study of 230 patients at Malmo, are presented in this paper in which the author lays stress on studying those who have survived suicidal attempts in order to understand the psychopathology of suicidal acts.

Statistical figures for greater London point to the following conclusions:—

(1) More men than women committed suicide, while attempts at suicide were more frequent among women. (2) The use of drugs for suicidal acts had been on the increase since the institution of the National Health Service in 1945. (3) A gradual decline is noticed in the percentage of suicides due to the increasing use of drugs with an increase in the number of suicidal attempts.

To regard every act of self-damage

inflicted with the intention of self-destruction as a suicidal attempt, does not help us in understanding its psychopathology. The author prefers to describe the suicidal attempt as a behaviour pattern (as the result of primitive urges and conflicts). It is a pattern which is at the disposal of only a limited group of personalities. The salient features in such a personality are (a) the social, (b) the appeal and the (c) ordeal aspects.

Summing up, the author says a suicidal attempt has two aspects:—One directed towards destruction and death and the other towards human contact and life. A suicidal attempt usually results in some modification of the individual's attitude to himself and to his social situation, such as cementing the crumbling relations or in greater cohesion amongst members of a group, or breaking precarious human relationships. This is a pilot study and the

questions raised are obviously meant to be guides for further investigations.

**The treatment of mental defectives with glutamic acid.**—(Foale, M., *J. Ment. Sci.*, July 1952).

The results of treatment with glutamic acid on a group of male juvenile mental defective delinquents at the Lennox Castle Institution, administered in the form of 0.5 gm. tablets are reviewed.

The daily dose was 9 gm. for the first 4 months and 12 gm. for the next 6 months. Due to the high cost of glutamic acid, it could be tried only on 15 patients.

Perceptible improvement was observed in the behaviour of 8 boys with an appreciable rise in the intellectual status of 4 of them. No such improvement either in their behaviour or in the intellectual status was observed in the controls not given glutamic acid.

## SURGERY

### Melanoma and pigmented naevus.

—(*West. Jour. Surg. Obst. and Gynaecol.*, 60, 10, Oct. 1952).

Dr. Conway of San Francisco reports six cases of pigmented naevi, which were treated by him. The prognosis depends on early diagnosis and wide surgical excision of the original lesion. Wright (*J. Path. Bact.*, 61, 507; 1949) in a study of 222 cases found the average survival time was only 10 to 19 months, in cases in which the regional lymph nodes were enlarged or histologically involved at the time of the excision of the primary growth. More patients, he thought, could be saved if the primary growth was radically excised. Conway's experience with his six cases led him to conclude that (1) all pigmented lesions which show any evidence of growth, increased pigmentation, ulceration, or bleeding should immediately be widely excised and examined microscopically; (2) any pigmented lesion which is exposed to trauma should be widely excised; (3) if any lesion, which has been previously excised should prove to be malignant, further excision of subcutaneous tissue, including fascia and

muscle should be done. The defect can be adequately closed with a skin graft if necessary; (4) resection of the regional lymph nodes should be performed *within three weeks* after a diagnosis of malignant melanoma has been made; (5) once a diagnosis of malignant melanoma has been made the prognosis and probable life expectancy are poor, therefore, elective and prophylactic excision of the lesion is the treatment of choice.

**The tonsil problem.**—(*The Med. Review*, 46, Nov. 1952).

Dr. Michael Roberts in the July number of the *Irish Medical Association's Journal* states that the role of the tonsils is not fully determined as yet, because we are handicapped by a general lack of understanding of lymphocytes, reticulo-endothelial cells and the structure of the lymph follicles. That they have something to do with immunity to disease, reconstruction of tissue, and phagocytosis is generally conceded. Their most probable function is their action as a defence organ for the respiratory and digestive systems.

This is so, "because the lymphatic role is most active in early childhood, especially in the period when we are building our resistance to disease and infectious fevers. When the resistance of the lymphatic ring is overcome the second line of defence is brought into play viz., the cervical lymphatics. The child who is definitely not thriving, who is anæmic under-weight, listless, easily fatigued, and of poor appetite—this type of case alone can give one of the most gratifying results in surgery.

**Anæsthesia for neuro-surgery.**—(Horwitz *et al*, *N. Y. State J. Med.*, August 1951, *Med. Rev.*, p. 185, Nov. 1952).

The authors outline the anæsthetic

management of 325 patients requiring neuro-surgical intervention. Atropine was the only drug used in premedication. Induction was accomplished with cyclopropane to produce rapid onset of unconsciousness without hypoxia or respiratory depression. Ether is then gradually added to the anæsthetic mixture, and as effective concentrations are reached, the cyclopropane is discontinued. The nasal mucosa is topically sprayed with approximately 1 c.c. of cocaine (10 per cent solution) for the primary purpose of shrinking the nasal mucous membranes. It probably also provides some topical anæsthesia of the pharynx and glottis. When the level of anæsthesia is sufficient, nasotracheal intubation is accomplished using an uncuffed Magill catheter of suitable size.

## OBSTETRICS AND GYNÆCOLOGY

**The emergency obstetrical service.**—(*Lancet*, p. 746, 18-10-1952).

Dewhurst reviews 489 obstetric cases attended by the Manchester Emergency Maternity Unit. 388 of these were either cases of retained placenta or postpartum hæmorrhage. During the period under review (Sep. 1947 to Dec. 1950), there were 7 maternal deaths. These are described with a view to ascertaining if similar circumstances can be avoided in future. For example, it is noted that women having their sixth baby or more are prone to postpartum hæmorrhage and therefore, are better confined in hospital. Women who have had difficulties in previous third stages of labour are likely to have similar trouble in subsequent third stages and should get hospitalized. Speed and treatment for shock are the two most important factors in the success of the obstetric service. Speed in that the unit is called early, its staff are immediately available, and it arrives as quickly as possible. Treatment for shock, in that those who are in immediate attendance on the patient do all in their power to preserve the patients' general condition while awaiting the arrival of the unit. Repeated attempts at expulsion of the placenta or allowing the uterus to become filled with blood

are two things which must *not* be done, as they quickly reduce the patient's general condition and induce shock. The use of whole pituitary extract is also sternly forbidden.

**Sexual functions of the pubococcygeus muscle—A new concept.**—(Kegel, A. H., *Western Jour. Surg. Obst. Gynaecol.*, 60 : 10, pp. 521-524, Oct. 1952).

The sexual physiology of the vagina has been studied for the first time, in the light of two recent discoveries, namely: a therapy whereby function of the perivaginal muscles can be improved; and the anatomic finding that numerous minute fibres of the pubococcygeus muscle (portion of the levator ani) are inserted into the walls of the vagina. Specifically, physiologic therapy applied to improve the supportive, sphincteric and sexual functions of the pubococcygeus muscle in the female has been a means of bringing about a more complete understanding of the normal and pathological physiology of the pelvic outlet. In the present study Kegel recognized that (1) the supportive function of musculofascial tissues of the pelvis is acquired about the time the child assumes the erect posture; (2) the voluntary control of the bladder is an



acquired reflex established through childhood training; and (3) the sexual perception centred in the perivaginal tissues is also an acquired function, during the adult or married life of the woman. The clinical significance of the finding that all the three functions are acquired, is that any functional deficiency can be improved by adequate therapeutic measures at any time in adult life.

It is common knowledge that some individuals establish genital functions quickly and satisfactorily; others acquire them slowly and often poorly. Subnormal vaginal functions undergo rapid and marked changes under various influences, such as environment, psychic factors, endocrine therapy, repair surgery, child-birth, menopause and instructions in marital relations. The common denominator as far as sexual physiology is concerned, is the effect on sensory perception of the vagina and the resulting gratification of both partners. Much of the information in medical literature, pertaining to this factor, consists of misleading inferences. In 1930, Van de Velde in his book on *Ideal Marriage* stated that exercises of the vaginal muscles are as a rule totally neglected. He reported that in a few cases in which he was able after great difficulty, to teach women to contract the perivaginal muscles, the sexual appreciation was enhanced.

Kegel's method of investigating the functions of the perivaginal muscles originated in 1932, incidental to efforts at improving the ultimate results of plastic surgery. He had consistently noted that a few months after well performed vaginal repairs the tissues again became thin, atrophic, fibrous and inelastic. Local stimulation was useless in restoring tone. Sensory perception was quickly exhausted. A still greater difficulty was encountered: the women in whom restorative therapy was indicated, lacked the ability to contract their vaginal muscles, and response to tactile perception and even awareness of function was often absent. Consequently, the question arose whether the functions of perivaginal muscles, normally developed through sensory channels, could in the presence of defi-

ciencies, be trained through guidance of sense of sight. Muscle education under visual guidance proved helpful but as only narrow strands of extraneous muscles got thereby strengthened a means was devised whereby the muscles in the entire circumference and up to a high level in the vagina could be restored—through exercise against resistance. An apparatus was designed, known as the Perineometer (made and supplied by the Perineometer Research Laboratory Inc. 2007 Wilshire Blvd. Los Angeles, 5 California) which has proved completely satisfactory during the last 5 years.

In women with a weak thin pubococcygeal muscle, with a contractile ability measuring zero to 3 mm. Hg., expressions of indifference or dissatisfaction regarding sexual activity were frequently met with. The symptoms revealed a definite pattern relating to sensory perception of the vagina. In the patient's own words "I just don't feel anything"; or "I don't like the feeling"; or "the feeling during the act is disagreeable". Though at first such complaints were thought to be due to underlying psychic conflicts, as the study progressed however, it became quite apparent that the reverse was often true and that psychic problems may arise from faulty sensory perception in the vagina during the sexual act. Observations in both parous and nulliparous women ranging in age from 16 to 74 years have led to the conclusion that sexual feeling within the vagina is closely related to muscle tone and can be improved through muscle education and resistive exercise. Following the restoration of function of pubococcygeus muscle, numerous patients incidentally volunteered the information "I can feel more sexually" and some experienced the "orgasm" for the first time. A representative case history is presented, which is exceedingly interesting.

A nulliparous woman aged 42, married 21 years, complained of moderate urinary stress incontinence of 7 years' duration, urgency and frequency since childhood. Examination revealed a roomy middle third of the vagina and an atrophic pubococcygeus muscle. The patient was not aware that the vaginal



muscles were capable of contraction. With perineometer exercises the contractile strength increased in six weeks from zero to 12 mm. Hg. Incontinence was cured and during the final consultation 3 months after the therapy, the patient said that she and her husband wished they had known about the vaginal exercises 20 years earlier. Upon questioning she stated that while sexual desire had been normal, coitus was never gratifying. Either she felt very little or the sensation within the vagina was outright disagreeable. Most of their married life, coitus had been restricted to a few times a year. After restoration of the function of her pubococcygeus, sexual intercourse occurred several times a week, was very gratifying and the patient experienced orgasm for the first time. Examination revealed increased tone of the vaginal walls, the pubococcygeus was broader and thicker and contractile ability measured 24 mm. mercury. Two years later, sexual relations continued satisfactory.

*Test for sensory perception of the pubococcygeus muscle:*—In a study of the sexual function of the pubococcygeus muscle, the influence of psychic and endocrine factors, as well as that of sensitivity of the external genitalia was constantly taken into consideration. The normal and abnormal status of the pubococcygeus muscle can be determined by a simple test developed during the past year:—The pubococcygeus muscle is identified near its origin in the os pubis and at several points lateral to the vagina. It is then palpated deeply with two and three slight movements of the tip of the index finger. Palpation of the normal pubococcygeus muscle at the correct depth, with slight pressure, will elicit tenderness or discomfort as long as the muscle remains relaxed. The instant the muscle is contracted, however, the patient will usually note a distinct change in the character of sensory perception, with definite relief of discomfort. When the function of the pubococcygeus is poorly developed or the muscle is impaired through injury, the same degree of tenderness and discomfort elicited in the relaxed state, is not changed or relieved when the patient exerts efforts to contract the

muscle. In sexual dysfunction deep palpation of the pubococcygeus muscle will often reproduce identical paresthesia as experienced during coitus. The findings obtained by this test will progressively change as the function of the pubococcygeus is restored through muscle education and resistive exercise. In cases of unilateral atrophy of the pubococcygeus the test will be positive on the normal side where strong contractions can be elicited; it will prove negative on the injured or atrophic side and it is here that forceful intercourse results in disagreeable sensations.

The author's findings indicate that sphincteric and sensory sexual function of the vagina is practically always potentially present, and can be developed through muscle education and resistive exercise. Every woman with sexual complaints should be investigated for possible dysfunction of the pubococcygeus muscle. In a large percentage of cases it will be found that "lack of vaginal feeling" and the so-called frigidity can be traced to faulty development of function of the pubococcygeus muscle. Dysfunction of the muscle was demonstrated in 123 women who complained that they had never experienced gratifying sexual intercourse. The degree of improvement was marked in 78 of these who reported orgasms. In the others the improvement varied from slight to moderate.

**Sudden death from pituitrin shock.**—(Krettek, J. E. and Russum, B. C., *Jour. Iowa. State. Med. Soc.*, 42: 6, 255-256, June, 1952).—The role of parenterally administered pituitary preparations in producing collapse or sudden death has been well established and numerous such instances have been recorded. The great majority of the cases reported have, however, been associated with various surgical or obstetrical procedures or in combination with general anaesthetic agents. The evaluation of the specific effect and degree of responsibility of the pituitary product in such cases has frequently been obscured by such concomitant factors as blood loss, tissue trauma, reflex activities and the toxic or pharmacologic effects of anaesthetic or supportive drugs.

The case here described is of interest since death occurred prior to any form of manipulation and in the absence of any other medication. In the case to be reported the purified oxytocic fraction of the posterior pituitary (pitocin) was the agent responsible for coronary spasm and death. Although this substance has seldom been reported as the cause of such a fatality, Kantor and Klawans obtained the greatest reaction with such a deproteinized agent in a series of patients tested with various pituitary preparations. They concluded that *only the nonbiologic type of oxytocics (ergot derivatives) can be employed with absolute safety*; pituitary extract acts on the heart through the vagus nerves by stimulating the cardio-inhibitory centre and it causes constriction of the coronary arteries and a decrease of cardiac output, with resulting myocardial asphyxia. Since the maximal action of pituitrin develops 30 to 45 minutes after intramuscular injection, frequent repeated doses may produce a cumulative reaction.

**CASE REPORT:**—A 35 year old, secondigravida was admitted at term on 22nd March 1949. Her past medical and surgical history shed no light on the present illness. She had been delivered uneventfully of her first pregnancy in this hospital at term of a living infant 13 years ago. The hospital record for that admission indicates that

1 c.c. of pituitrin was given hypodermically at the end of the second stage. Her blood pressure was 120/80. The present pregnancy had been uneventful and physical examination revealed no abnormalities of the cardiovascular or other systems. Elective medical induction of labour with pitocin was instituted at 11-00 a.m. At 5-00 p.m. after the last of eight hypodermic injections of 1·3 minims (total 16 minims). She complained of headache and shortness of breath. Her skin developed a flushed, mottled appearance, and her lips became cyanotic. She expired about 30 minutes after the initial onset of symptoms in acute circulatory collapse. Post-mortem caesarean section failed to save the infant. Death was due to the specific pressor action of pitocin upon the coronary arteries, producing vaso-constriction and sudden decrease in cardiac output. The vaso-constriction of the coronary vessels was of sufficient duration to cause anoxia in the heart; small coronary branches or capillaries ruptured and there was hemorrhage beneath the epicardium and endocardium.

This is therefore a fatal case of "pituitrin" shock occurring during the medical induction of labour with the purified oxytocic fraction of the posterior pituitary gland. This case supports the contention that untoward cardiac effects can be avoided only with non-biologic oxytocics.

## BOOK REVIEWS

**Muscle Relaxation**—By Dr. GERALD GERMANY, (London, The Actinic Press, Published 10th Nov. 1952).

This little book, deals very lucidly with the treatment of certain psychiatric illnesses by muscle relaxation techniques—a particularly difficult theme. The relationship between anxiety and tension in the voluntary musculature, and the characteristics of emotions and what we mean by emotional disturbances are dealt with in the first 2 chapters, and reference is made to the studies on peptic ulcer by Wolf and Wolf (1942) seeking to establish the intimate relationship between body and mind. The role of muscle-tension in perpetuating

emotional disturbances is also discussed. In the next chapter the author judiciously avoids entering into the conflicting evidences involved in the James-Lange theory of emotion and by drawing attention to certain studies on electromyography, seeks to prove how sensations arising from bodily manifestations of emotion, go to make up a very large and important part of 'Emotion.'

Though ordinarily emotional perturbation can be temporarily eased by sedation, the technique described by the author is designed to bring tranquility to a certain proportion of psychiatric patients, *without having recourse to drugs*

and without producing any dimming of their consciousness.

A friendly cooperation between the physiotherapist and the psychiatrist should precede any attempt on the part of the physiotherapist to get the individual patient to submit to relaxation therapy. In the fourth chapter, the author deals with:—the basic position, the necessary instructions to the patient, the precautions to be observed by the physiotherapist, the technique of localising the tension and directing relaxation in the upper limb, the neck and the face.

Chapter V deals with techniques modified to suit patients who do not need general relaxation exercises, i.e.: (1) those who experience exceptional difficulties and (2) those who have particular phobias arising out of special sets of circumstances.

Chapter VI is particularly important because it deals with the indications, contra-indications, limitations and difficulties in relaxation therapy, which is indicated only in conditions in which anxiety or tension is the prominent feature. Neuromuscular relaxation is a hopeless undertaking in the presence of true agitation, mental deficiency states with or without psychiatric manifestations, senility, inadequate constitutional neuroticism and excessive psychiatric sophistication. The method should be confined to those who require it and who are capable of acquiring the necessary theoretical background and devoting the necessary time to practise it regularly. The author however, rightly believes that difficulties may be overcome if a conscious selection is made of suitable patients and they are prepared before hand by the experienced psychiatrist. Relaxation exercises should be supported and supplemented by psychotherapy and other specialised treatments like those using modified insulin.

The author finally summarises his main findings along with the *rationale* of the treatment. A glossary of terms is provided at the end.

Dr. Gerald Germany sets forth clearly the limitations to neuromuscular relaxation-technique in this small but very useful book which will interest those

dealing with the problem of rehabilitation of the mentally ill-patients whose imbalance is manifestly related to fear on environmental causes. Dr. Germany, has brought to bear on this work, his wide experience of the subject and is to be congratulated on the very clear presentation he has made. Besides creating interest in relaxation therapy, his book will serve as a general guide to students of physiotherapy and psychiatry.

The reviewer wishes to point out that relaxation therapy is not new to Indian thought and tradition. Among the various systems of indigenous physical exercises, *Hata Yoga* practised and prescribed by our *Rishis* of old, is a systematised course of exercises dealing with *Shat Karmas*, *Asans*, *Pranayamas*, *Mudhras*, *Bandhas* and exercises on concentration and deep meditation. Relaxation of the muscles, mind and nerves was considered just as important as their contraction. For relaxation, *Shavasana* was the *asan* of choice. The theoretical preparation, the basic posture, and the breathing exercises incidental to performing *Shavasana* are akin to what Dr. Germany intends to convey to his readers, by his "muscle-relaxation technique".

—O. K. V.

**The Glaucomas**—By H. SAUL SUGAR, M.D., F.A.C.S., 1952, pp. 469, (123 illustrations). Messrs. C. V. Mosby & Co., 3207, Washington Blvd. St. Louis 3.

The author is known to most of us, and has contributed several papers on Glaucomas, based on his 15 years' experience in the study of this subject. In spite of the large volume of literature that has accumulated during the last 25 years, finality has not yet been reached regarding many of its problems. The present volume contains a collection of the series of lectures and talks given at various meetings and to post-graduate students in ophthalmology.

Starting with the anatomy of the Eye in relation to glaucoma, the aqueous humour, its production, drainage, filtration, physiological mechanisms in normal and increased intra-ocular pressure, and tonometry; classification of

glaucomas are dealt with in succeeding chapters.

Adult primary glaucoma, etiology of the adult primary glaucoma, diagnosis of early simple glaucoma, the usefulness and limitations of most of the important tests like perimetry, provocative test, the water test, the pressor congestion test, the caffeine test, anterior chamber puncture test, the massage test, Intra-ocular pressure, ocular rigidity and the light sense are all very clearly dealt with in a manner that should prove of immense value to both students and practitioners.

The value and importance of gonioscopy in the diagnosis of glaucomas are stressed.

The chapters on operative methods for the treatment of glaucomas are copiously illustrated and are very instructive.

The book ends with some illustrative hints on popular educational programmes for the prevention of blindness due to glaucomas.

The book is well illustrated and each chapter carries at the end a list of references, useful to practitioners desirous of more information.

Concise and lucidly written, this book contains up-to-date information on all aspects of glaucoma. We gladly recommend it to all practitioners and post-graduate students interested in glaucomas.

### BOOKS RECEIVED

The following books have been received since 13-1-'53 and the courtesy of the Publishers in sending them is acknowledged. Reviews will be published in due course—ED.

1. "Handbook of Orthopædic Surgery"—By ALFRED RIVES SHANDS, JR. B.A., M.D., Director of the Alfred I. duPont Institute of the Nemours Foundation, Wilmington, Delaware, Visiting Professor of Orthopædic Surgery, University of Pennsylvania School of Medicine, Philadelphia, Pennsylvania. Fourth edition, 1952. The C. V. Mosby Company, St. Louis. Price \$ 8'00.

2. "Diseases of the Heart and Arteries"—By GEORGE R. HERRMANN, M.S., M.D., Ph.D., F.A.C.P., Professor of Medicine, University of Texas, Director of the Cardiovascular Service and Heart Station, University Hospitals; Consultant in Vas-

cular Diseases, United States Marine Hospital; Consultant in Medicine to Surgeon General United States Army. Fourth Edition, 1952. The C. V. Mosby Company, St. Louis. Price \$ 12'50.

3. "Oral Anatomy"—By HARRY SICHER, M.D.D.Sc., Professor of Anatomy and Histology, Loyola University School of Dentistry, Chicago College of Dental Surgery; Guest Lecturer, Northwestern University, Dental School, Chicago. With 301 text illustrations including 24 in colour. Second edition, 1952, pp. 529. The C. V. Mosby Company, St. Louis.

4. A Treatise on Hygiene and Public Health—By B. N. GHOSH, F.R.F.P. & S. (Glas.), F.R.S. (Edin.), Thirteenth edition, pp. 787. Published by Scientific Publishing Co., 85, Netaji Subhas Road, P. B. No. 969, Calcutta-1. Price Rs. 17/8/, or 25s 6d.

### NEWS AND NOTES

#### Doctors in Britain's Parliament

Distinctive Contribution of Medical Committee

*By Lord Haden Guest (Chairman of the Medical Parliamentary Group and of the Medical Personnel (Priority) Committee of the British Ministry of Health).*

There are many specialist groups made up of Members of Parliament, including members of the House of Commons and members of the House of Lords. Naturally enough, the one I know best is the Parliamentary Medical Committee made up of doctors, specialists,



public health experts and administrators.

It has existed for a long time and always had a considerable influence. And looking back over most of the last 30 years, I believe that its influence, and its information, have helped Parliament on many occasions to come to right conclusions.

*Distinguished members:*—The members of the Parliamentary Medical Committee have often been distinguished in the profession, and outside of it, too. The record of the Parliamentary Medical Committee over a period of years was such that the Government of the day, irrespective of its colour, had confidence in the medical profession and was glad to consult the Parliamentary medical group. Then the General Election of 1929 brought in a new Labour Government and made a change in the personalities who represented the medical profession and the medical sciences in the Commons.

So at the next meeting of the Parliamentary Medical Committee, Sir Francis Fremantle, proposed that the Chairman should now be chosen from the Government party. Dr. Arthur Salter was elected, with Dr. Morris Jones, a Liberal, as Treasurer, and Dr. Somerville Hastings as Secretary.

The Committee remained nicely balanced between parties and fairly representing all of them. So it continued under successive Governments until the war came in 1939. Then the medical members of the House of Commons and of the House of Lords spent much of their time either in the medical services of the Armed Forces or in helping to perfect civilian medical arrangements. The most elaborate arrangements had been made, of course, in London and in many other big cities for air-raid precautions even before the war.

*New problems:*—After the war it was clear that the medical horizon had widened very considerably. There were many new problems to engage our attention. There is now in the world such a day-to-day movement of men and women by aeroplane from one part of the world to another as to create a new situation in world medicine as well as in

world politics.

Flights across the Atlantic are normal everyday happenings. New types of aeroplanes, our own Comets, make travel to the remotest parts of the world a matter of ease. It is indeed fortunate that we have, in the medical field, achieved great advances in the control, prevention and cure of tropical diseases.

The achievements of modern medicine in these and in all other fields have raised new problems, as well as creating new opportunities. There is, too, a growing body of legislation concerned with the health and welfare of the individual citizen. So, in my view, there will be just as much need in the future as in the past for an active Parliamentary Medical Committee.

Its task is essential and can be simply defined. It has to focus medical opinion in the House on important issues, and to make a distinctive medical contribution to the great and very hard work of Parliament.—“*Family Doctor*” (*B.I.N.*, 23-1-53).

[NOTE:—A Parliamentary Medical Committee for India, composed of members of the medical profession, drawn from the two Houses will greatly assist in all matters relating to medicine and public health and also command the confidence of the general medical profession.—ED ANTISEPTIC.]

### Erythrocin—A New Antibiotic

A new antibiotic which is effective orally against a wide variety of organisms is being introduced in world markets by Abbott Laboratories.

Of special interest in the antibiotic's effectiveness against organisms which have developed resistance to penicillin or other antibiotics

The new antibiotic, erythromycin, is being introduced by Abbott under the trade name Erythrocin.

The Abbott product is a small, specially-coated tablet. The special coating protects the antibiotic from the destructive effect of the gastric juices but permits rapid disintegration of the tablet and absorption of the antibiotic in the upper intestinal tract. For the patient the coating masks the bitter taste of the antibiotic itself. Erythrocin is characterized by low toxicity. No serious side



reactions have been reported following its use.

Erythrocin is valuable in the treatment of infections produced by staphylococci, streptococci and pneumococci as well as certain other organisms. It can be used, the company said, in a wide variety of disease. It may also prove effective in diseases which have not responded to other antibiotics. While Erythrocin's activity is similar to that of penicillin in many respects, it appears particularly effective against organisms which have lost their susceptibility to penicillin or to other antibiotics.—*Abbott's News*.

#### The 13th Maharashtra and Karnatak Provincial Medical Conference '53.

The 13th Maharashtra and Karnatak Provincial Medical Conference will be held at Vishrambag, (Willingdon College, Sangli.) under the auspices of the Indian Medical Associations, Sangli and Miraj on the 23rd, 24th and 25th April, 1953.

Details may be obtained from the Organizing Secretary, Dr. K. D. Udgaonkar,

Dr. Udgaonkar's Clinic, Sangli. T'phone: No. 55, T'gram: Medicon.

#### The 14th All-India Ophthalmological Conference, Poona 1953.

The 14th All-India Ophthalmological Conference will be held on the 3rd, 4th and 5th March 1953 under the auspices of the Poona Ophthalmological Society. The subject for the Symposium is "Ocular Manifestations of Diabetes". All papers to be read before the Conference should be sent to Dr. S. N. Cooper, Laud Mansion, 21, Queen's Road, Bombay No. 4, before the 15th January, 1953.

A Reception Committee has been formed in Poona under the Chairmanship of Col. B. Basu.

All specialists and other practitioners interested in Ophthalmology are cordially invited to attend the Conference in large numbers and make it a success. Regarding details of accommodation, etc., intending delegates are requested to write to Dr. D. G. Patwardhan, Jt. Hon. Secretary, Reception Committee, Saraswati Vilas, Laxmi Road, Poona 2.

### NOTICE

#### Neurological Society of India

The Second Annual Meeting of the Neurological Society of India will be held at Poona, on 28th February, 1st and 2nd March '53 along with the Annual Conference of the Association of Physicians of India.

Medical men, interested in Neurology,

and allied subjects, like Neuro-Surgery, Psychiatry, etc., are eligible for Associate Membership, and they are requested to contact the Secretary for further information.

43, Harris Rd.  
Madras-2.

B. RAMAMURTHI,  
M.S., F.R.C.S.E.,  
Secretary,  
Neurological Society of India.

### ACKNOWLEDGEMENTS

We have received from the Royal Sanitary Institute, London a pamphlet setting forth the statement of its objects and work; as also the rules and regulations governing Membership and Fellowship in the Institute.

We acknowledge with thanks the receipt of the summary of articles read at the 12th Conference of the International Union against Tuberculosis held at Rio de Janeiro, from 24th to 27th August 1952, under the Patronage of H.E. the President of the Republic, Getulio Vargas.

By summarising the articles given at the "Symposium on new antitubercular therapies" held at Rio de Janeiro, Lepetit S.p.A. has furnished further information on isoniazide, in order to keep the medical profession up to date on the progressive chemico-biological researches and the clinical experimentation obtained with the new antitubercular drug.

# PHILIPS UNIVERSAL "Practix"



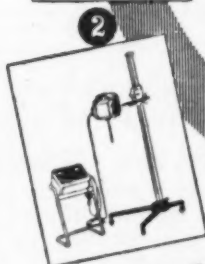
Incorporating grid action 1.0 x 1.0 mm<sup>2</sup> tube  
(available in 72 kV at 10 MA and  
80 kV at 12 MA executions)

*With* ANY OF THE FOLLOWING STANDS



NEW SIMPLE AND INEXPENSIVE LIGHTWEIGHT STAND (26 LBS). EASILY SET UP WITHOUT ASSISTANCE. ESSENTIALLY PORTABLE WHEN USED ONLY WITH HAND-SWITCH (OUTPUT 72 KV AT 10 MA)

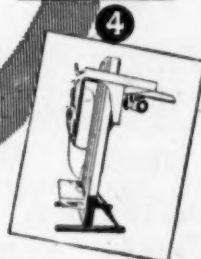
"CARDANOSCOPE" DEMOUNTABLE AND TRANSPORTABLE STAND UTILISING 40 x 40 CM SCREEN AND FULL SIZE CASSETTES FOR STATIC OR PORTABLE WORK.



DEMOUNTABLE STAND (42 LBS) PROVIDING HAND-CRANK HEIGHT ADJUSTMENT. HORIZONTAL EXTENSIBLE ARM AND HINGED MOBILE BASE WITH FOLDING COLUMN FOR PORTABILITY. SUITABLE FOR USE WITH PRACTIX CONTROL BOX (OUTPUT 80 KV AT 12 MA).



"UNI-PRACTIX" STAND FOR FLUOROSCOPY AND RADIOGRAPHY IN STANDING AND RECURRENT POSITIONS. INCORPORATES ROTATABLE COUPLING BETWEEN TUBEHEAD AND FOLDING BACK SCREEN.



"PRACTOSCOPE" STAND INCORPORATING VARIABLE HIGH TENSION AND FULL SIZE SCREEN FOR STATIC RADIOGRAPHIC AND FLUOROSCOPIC FACILITIES IN CLINIC OR HOSPITAL.

Full Particulars available from:

**PHILIPS ELECTRICAL CO. (INDIA) LTD.**  
X-RAY & MEDICAL DEPT.

"PHILIPS HOUSE", 7, JUSTICE CHANDRA MADHAB ROAD, CALCUTTA 20.  
Branches: BOMBAY • MADRAS • DELHI • LUCKNOW • KANPUR.

## In Vitamin B-Complex deficiencies



### COMPOSITION

Each 2 c. c. contains :

Vit. B <sub>1</sub> (Thiamine Hydrochloride)	50 mg.
Vit. B <sub>2</sub> (Riboflavin)	1 mg.
Vit. B <sub>6</sub> (Pyridoxine Hydrochloride)	1 mg.
Nicotinamide	50 mg.
Calcium Pantothenate	4 mg.

### PACKING

Issued in Boxes of 6, 12 and 50 amp. of 2 c. c.

**B.I. B-COMPLEX**

## B.I. Elixir B-COMPLEX

### COMPOSITION

Each fluid ounce contains :

Vitamin B <sub>1</sub> (Thiamine Hydrochloride)	5 mg.
Vitamin B <sub>2</sub> (Riboflavin)	2 mg.
Vitamin B <sub>6</sub> (Pyridoxine)	1 mg.
Nicotinamide	15 mg.
Calcium Pantothenate	3 mg.
Sodium Glycero-phosphate	50 mg.
Potassium Glycero-phosphate	50 mg.
Calcium Glycero-phosphate	50 mg.
Beryllium Glycero-phosphate	50 mg.
Manganese Glycero-phosphate	50 mg.
Leucine	50 mg.
Alcohol as preservative	122 by vol.

### PACKING

Issued in Bouteils of 50 c. c. measure.



GENRAL IMMUNITY CO., LTD. CALCUTTA 19

## ICIBEX

(Vitamin "B" Complex)

### PARENTERAL

Each 2 c. c. contains :

Vitamin B <sub>1</sub>	25.0 mgms.
Vitamin B <sub>2</sub>	4.0 "
Vitamin B <sub>6</sub>	1.0 "
Niacinamide	100.0 "
Cal. Pantothenate	2.0 "
Chlorbutol	10.0 "

Issued in box of 6 amps. x 2 c. c.

## ICIBEX

(Vitamin "B" Complex)

### TABLET

Each Tablet of 5 grs. contains :

Vitamin B <sub>1</sub>	3 mgms.
Vitamin B <sub>2</sub>	1 "
Vitamin B <sub>6</sub>	0.6 "
Cal. Pantothenate	3 "
Nicotinic Acid	20 "

Issued in - 25, 100, 500, and 1000 tabs. packings.

## ICIBEX

(Elixir Vitamin "B" Complex)

### LIQUID

Each Fluid Drachm Represents :

Vitamin B <sub>1</sub> (500 I.U.)	1.5 mg.
Vitamin B <sub>2</sub> (Riboflavin)	1 "
Nicotinic Acid	4 "
Vitamin B <sub>6</sub> (Pyridoxin)	0.3 "
Pantothenic Acid	0.5 "
Sodii Glycero-phosphate	50.0 "
Alcohol 17.0% proof in Sugar	
Free Base.	

Available in 4 oz. & 16 oz. Packings.

For further details and trade particulars, please write to :

## INDIAN CHEMICAL & THERAPEUTICAL WORKS LTD.

(Estd. 1900)

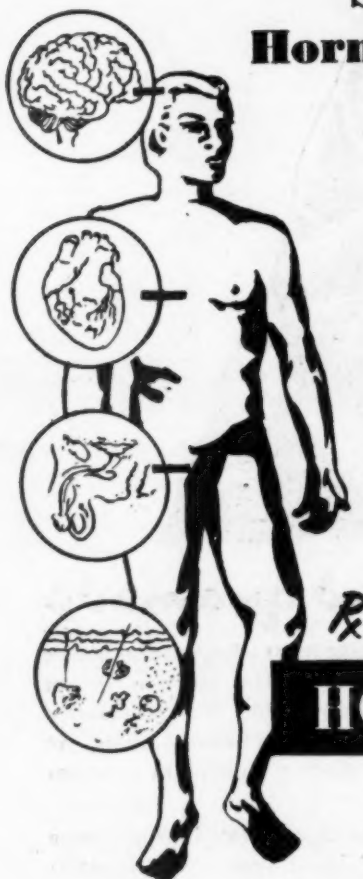
68, Barrackpore Trunk Road, CALCUTTA-2.

Madras Branch :- 14/15, Second Line Beach, Madras-1.

Gram : Aswarin, Cal.

Phone : B. B. 5102.

## Symptoms of Hormonal Deficiency



• **EMOTIONAL:** Lack of Initiative,  
Depression, Nervous Tension,  
Irritability.

• **CARDIAC:** Tachycardia, Angina.

• **CIRCULATORY:** Flushes, Chills,  
Sweats, Palpitation.

• **GENITO-URINARY:**  
Pollakiuria, Decrease of Sexual  
Function

• **GENERAL:** Fatigue, Listlessness,  
Insomnia, Pruritus, Premature  
Senility.

## HORMONDRINE

CIPLA

### AN IDEAL HORMONE THERAPY

Indicated in all cases of endocrine disturbances that come about the time of the male climacteric and in a number of other conditions, both in male and female, such as, Prostatic Hypertrophy, Juvenile Acne, Menstrual disorders, Lactation, Mastitis, Carcinoma of breast and genitals, Frigidity, etc.

• **TESTOSTERONE  
PROPIONATE**  
INJECTABLE

**AMPOULES:**  
Containing 5, 10 & 25 mg.  
in 1 cc.

• **METHYL  
TESTOSTERONE**  
ORAL & SUBLINGUAL USE  
**TABLETS:**  
Containing 5 mg.

*Cipla*

BOMBAY 6.

LITERATURE WILL BE SENT ON REQUEST.

Cipla Sales Depot, 1/186, Mount Road, Madras.



## non utrum sed quomodo

Ferrous sulphate is recognised as the most efficient form of iron treatment for hypochromic anæmias. The question is not *whether* but *how* it should be administered. The preparation should not be too bulky, nor cause gastro-intestinal upset, yet it must disintegrate quickly and produce maximum hæmatopoietic response.

'Plastules' with folic acid contains in capsulated form ferrous iron, liver extract, folic acid and dried yeast. The capsules disintegrate in 9-13 minutes, thus making the semi-fluid contents available for immediate utilisation.

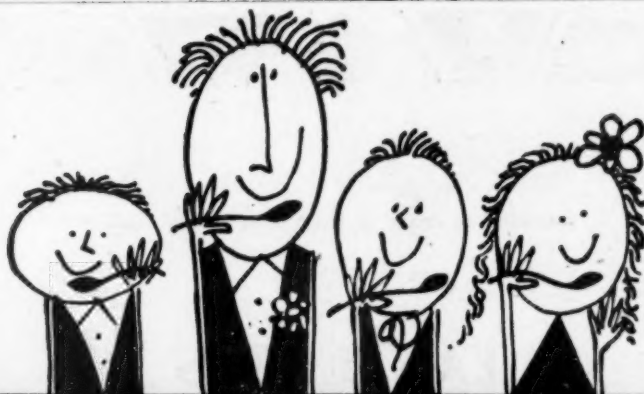


*Wyeth*

**'PLASTULES'**  
BRAND REGD.  
HÆMATINIC COMPOUND

JOHN WYETH & BROTHER LIMITED, LONDON  
Distributors in India and Burma GEOFFREY MANNERS & CO., LTD.





BROAD SPECTRUM ANTIBIOTIC OF CHOICE

# Terramycin

*Pfizer*

IN THE BEST OF TASTE

*for* oral suspension

(RASPBERRY FLAVORED)

**potent—**

Contains 250 mg. of pure well-tolerated Terramycin in each teaspoonful (5 cc.)

**palatable—**

Aqueous preparation unexcelled for palatability ensuring full patient acceptance

*Terramycin is also available in a variety of topical, oral and intravenous dosage forms for your greater convenience*

*Manufactured by*

**CHAS. PFIZER & CO. INC.**  
NEW YORK, U.S.A.

*Pfizer*

WORLD'S LARGEST  
PRODUCER OF  
ANTIBIOTICS

TERRAMYCIN  
COMBIOIC  
PENICILLIN  
STREPTOMYCIN  
DIHYDROSTREPTOMYCIN  
POLYMYXIN  
BACITRACIN  
COTINAZIN  
PRONAPEN

**EXCLUSIVE DISTRIBUTORS IN INDIA:**

**DEY'S MEDICAL STORES LTD.**

BOMBAY

• CALCUTTA

• MADRAS

AVAILABLE IN STOCK IN POWDER OR TABLET FORM

# TASTELESS Quinine

(QUININE ETHYL CARBONATE B.P.)

made by  
**HOWARDS OF ILFORD**

*Makers of Quinine Salts since 1823*

AGENTS IN INDIA

**THE ANGLO-THAI CORPORATION LTD**

EWART HOUSE, BRUCE STREET, FORT, BOMBAY, No. 1



A highly potent water soluble extract containing all antianæmic principles and extrinsic factors from healthy young sheep liver, with added standardised vitamins—suitable for intramuscular injection. Photometrically standardised. For tropical, macrocytic anaemias, particularly those refractory to ordinary whole liver extract.

R.C. vials of 10 cc.

## **T.C.F. WHOLE LIVER EXTRACT**

**SUPPLEMENTED WITH  
VITAMINS C & B-COMPLEX**

*A product of:*

**TEDDINGTON CHEMICAL FACTORY LTD.,**

*(Biological & Pharmaceutical Laboratories)*

Surén Road, Andheri, Bombay.

*Sole Distributors:*

**W. T. SURÉN & CO. LTD.,**

Post Box 229, Bombay I.

Branches: Calcutta: P.O. Box 672.

Madras: P.O. Box 1286.

# OSACYL

REGD. TRADE MARK.

Ciba brand of  
**p-Aminosalicylic Acid, Sodium Salt**

*Enteric-Coated Tablets For The Chemotherapy Of  
Tuberculosis.*

- 
- Easily absorbed.
  - Rapidly excreted by the kidneys.
  - Low toxicity.
  - Enteric-coated tablets reduce gastric disturbances to the minimum.

*Bottles of 250 enteric-coated tablets*



---

**CIBA PHARMA LIMITED**

P. O. BOX No. 1123

BOMBAY.

## **SHARK LIVER OIL**

**BOMBAY BRAND**

(Oleum vitaminatum of the B.P. Standard)

1000 I.U.s. of vitamin A and 100 I.U.s. of vit. D per gramme.

---

## **ELASMIN LIQUID**

A natural concentrate of vits. A & D.

Vit. A : 20,000 I.U.s/gm & vit. D : 2000 I.U.s/gm.

---

## **ELASMIN PEARLS**

A natural concentrate of vits. A & D in gelatine pearls. Absolutely tasteless and odourless. Each pearl contains 3000 I.U.s. of vit. A & 300 I.U.s. of vit. D.

---

All the above products are tested spectrophotometrically and are available in bottles as well as large size hospital packings.

*Products of the*

**FISHERIES TECH. LABORATORY, GOVT. OF BOMBAY,  
BOMBAY-5.**

*Sole Distributors for India :*

**KEMP AND COMPANY LTD.**

Bombay.

Madras.

Delhi.

Calcutta





# PULVULES RETICULEX

(Liver, B<sub>12</sub>, Iron and Vitamins, Lilly)

## Five-Course "Meal" for Red Blood Cells

Extrinsic Factor	Intrinsic Factor
Liver Extract	Stomach Tissue
Iron	
Vitamin B <sub>12</sub>	Folic Acid

with ascorbic acid and B complex factors  
Contains the known antianemic principles

### EACH PULVULE CONTAINS:

Liver-Stomach Concentrate, Lilly	400	mg.
Vitamin B <sub>12</sub> (Activity Equivalent)	10	mcg.
Ferrous Sulfate, Anhydrous	200	mg.
Ascorbic Acid	50	mg.
Folic Acid	0.33	mg.


### THERAPEUTIC INDICATIONS:

Anemias of pregnancy  
Deficiency anemias common in older patients  
Anemias which complicate other diseases  
Anemias which result from low dietary intake  
Anemias which occur following radical gastrointestinal surgery.

### ELI LILLY AND COMPANY OF INDIA, INC.

(Incorporated in the U.S.A., the liability of the members being limited)

P. O. Box 1971,  
Bombay-1, India.





# HI-NUTRON

*restores nitrogen equilibrium*



The negative nitrogen balance in illness leads to breakdown and excretion of body proteins like those of the muscles; the patient gets thinner every day.

HI-NUTRON restores the nitrogen equilibrium preventing waste during illness and aiding convalescence.

HI-NUTRON contains the protein 'Myosin' which provides all the essential amino acids.

Ampoules of 5 and 10 cc.

**HIND CHEMICALS LTD, KANPUR.**

# NEW! SALAMIDE

(SALICYLAMIDE WITH VITAMIN B & C)

Analgesic and Anterheumatic  
The safest salicylate therapy in  
all rheumatic conditions.

*Packing*

Tubes of 12 tabs. x 0. 5g.

Bottle of 50 tabs. x 0. 5g.



**SMITH STANISTREET & CO. LTD.**

18, Convent Road, Calcutta - Branches: Calcutta, Bombay, Madras, Kanpur.

## DREPHABALM

(ADRENALIN CREAM WITH EPHEDRINE IN VANISHING BASE)

For rapid relief of **Pain** and **Stiffness** of Chronic Rheumatism, **Fibrositis**, and **Lumbago** etc. Can be used at home by self.

Has been tried on thousands of cases in hospitals in England and is now prescribed extensively under the National Health Scheme as the safest and most effective treatment for above mentioned conditions.

(Reported in *Lancet* and *Medical World*)

**NO DRUGGING OR DIGGING  
ACTS LIKE MAGIC**

Mfd. by **Christie George & Co., Farnworth, Lancs. (England)**

Packed by Agents :

**JUGGAT SINGH'S SON & BRO.,**  
21B, Keval Mahal, Marine Drive, **BOMBAY.**

LITERATURE FREE

Sample Jar on receipt of one Rupee For Packing Postage.

## U. D.-VITAMIN C

(Ascorbic Acid)

Sodium Salt

The Anti-Scorbutic Vitamin in stable and standardized form. In addition to its classical indication, U. D.-Vitamin C can also be employed in a variety of conditions ranging from common cold and influenza to hæmorrhages from gastric and/or duodenal ulcers. U. D.-Vitamin C provides a reliable remedy in deficiency of infancy and childhood and in pregnancy and lactation.

### PACKINGS:

U. D. Vitamin C (plain) and U. D. Vitamin C (Forte) are available in appropriate packings for intramuscular or intravenous use.

T'Phones :-  
Bank 7211  
" 1901

**UNION DRUG CO. LTD.**

**285, BOWBAZAR STREET  
CALCUTTA-12**

T'Gram :-  
"Benzoin" Cal.

Agents for Madras Presy :- M/S. APPAH & CO., 286, Netaji Subash Chandra Bose Road, MADRAS.

---

## FOR SYPHILO-THERAPY

---

### THIO-SARMINE

B.R.I.

The oldest India-made pioneer trivalent aromatic arsenical for parenteral use (Painless) with a solvent supplied free. Also used satisfactorily in "Eosinophilic Lungs", Relapsing fever and Filariasis. Intravenous use with re-distilled water as solvent found to be innocuous by some critics.

Supplied in graduated doses.

### ACTI-BISMUTH

B.R.I.

Bismuth in ultra-microscopic suspension, activated, painless intramuscular injection. Obtained in 10 c.c. rubber-capped phials and 1 c.c. ampoules, six in a box.

### ACETARSIN

B.R.I.

(Diethylamine salt of 3-acetyl-amino-4-hydroxy-phenyl arsonic acid).

A stable aqueous solution of pentavalent organic aromatic arsenical. The most potent chemotherapeutic drug with higher therapeutic value and lowest toxicity.

For the treatment of Syphilis in all stages, Yaws, "Eosinophilic Lungs," "Lymphogranuloma Inguinale" etc.

Most suitable for parenteral use in Infants, Children and Adults as a ready made solution, painless and no nitritoid crisis.

*Prepared for the first time in India.*

---

**THE BRAHMACHARI RESEARCH INSTITUTE,**  
82-3, Cornwallis Street, **CALCUTTA-4.**

---

### Advantages of

## MEGALON SOLUTION CRUDE LIVER EXTRACT

*Manufactured by: ANTIGEN LTD., ROSCREA, IRELAND.*

Megalon Solution Crude Liver Extract is:

- (1) Made from fresh liver obtained directly from the animals. No refrigeration is used, and hence all the natural potency of the livers is conserved.
- (2) An extract of the crude type and there is thus no chance of loss due to excessive purification.
- (3) Tested for freedom from toxicity and for clinical potency in the case of every batch. Thus a uniformly active and non-toxic product is assured.
- (4) Available in a variety of strengths so as to suit all requirements.
- (5) Manufactured under Therapeutic Substances Licence, giving a guarantee that both production and testing are up to the highest and most modern standards.

MEGALON SOLUTION CRUDE LIVER EXTRACT IS AVAILABLE in the following strengths and packs:

- (1) 2 U.S.P. injectable units per cc; ampoules of 2 cc, and 5 cc in boxes of 6, 12 also 10 cc rubber capped vials.
- (2) 10 U.S.P. injectable units per cc; ampoules of 1 cc and 2 cc in boxes of 6, 12; also in 10 cc rubber capped vials.

Literature and Prices from Sole Distributors in India

**BIDDLE, SAWYER & CO. (INDIA) LTD.,**

25, Dalal St.,  
BOMBAY-1.

136, Second Line Beach,  
MADRAS

71, Canning St.,  
CALCUTTA.

---

# AMÆQUIN

(STRONG)

Each 6 gr. Tablet contains

Kurchi Bismuth Iodide	... 2½ gr.
Iodo-chloro-Hydroxy-Quinoline	... 1½ gr.
Kaolin	... 2 gr.
Excipients	... Q.S.

*Indicated in Amœbiasis, Amœbic Dysentery & Diarrhœa*

THE ORIENTAL RESEARCH & CHEMICAL LABORATORY LTD.,  
SALKIA, HOWRAH.

## 2

STABLE PREPARATIONS OF NIKETHAMIDE B.P.

*For the first time Synthesised in INDIA*

### CORMID

For oral and Parenteral use  
in 15 c.c. phials & 2 c.c. ampoules

25% Solution of Nikethamide  
A quick acting Analeptio

*Indicated in :*

*Collapse, Shock, Infective conditions,  
Anaesthesia, Cases of Poisoning and  
acute Alcoholism*

### EPHE-CORMID

For oral and Parenteral use  
in 15 c.c. phials & 1 c.c. ampoules

25% Solution of Nikethamide  
and 1/4 gr. Ephedrine Hydrochlor.  
A quick and Sustaining  
Cardio Respiratory Stimulant

*Indicated in :*

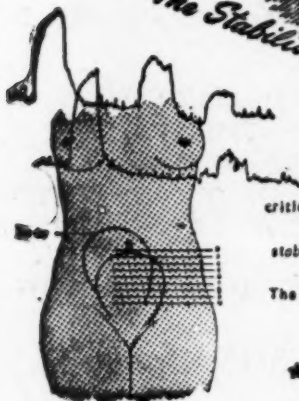
*Conditions of Circulatory failure,  
In States of Shock and Collapse,  
Hypotension and Bronchial Asthma*

STANDARD PHARMACEUTICAL WORKS  
LIMITED, CALCUTTA-14



# ERGOSEAL

*The Stabilised Ergot preparation*




Ergot therapy is called for at critical moments. The ergot preparation must be carefully standardized and stable in tropical climate. **ERGOSEAL** fills these requirements admirably. The sealed gelatin capsule packing leads to additional stability in hot and humid weather.

★ **ERGOSEAL** contains the total alkaloids of Ergot.

**HIND CHEMICALS LTD.**  
KANPUR.






## Cholivin

**AN ELIXIR FOR VITAMIN B DEFICIENCY & CIRRHOSIS OF LIVER; ALSO INDICATED IN NUTRITIONAL ANAEMIA, INFECTIVE JAUNDICE & HEPATIC DISORDERS.**

Each fluid ounce contains:

Choline Chloride	750 mg.
Methionine	350 mg.
Vitamin B <sub>1</sub>	13 mg.
Vitamin B <sub>2</sub>	4 mg.
Vitamin B <sub>6</sub>	3 mg.
Calcium Pantothenate	2 mg.
Vitamin B <sub>12</sub>	4 mcg.
Glycerine	15%
Alcohol	10% v/v.

*in a palatable elixir base.*



**THE ORIENTAL RESEARCH & CHEMICAL LABORATORY, LTD.**

QUMARESH HOUSE

SALKIA, HOWRAH.

# CLORAMIDINA

(CHLORAMPHENICOL)

Vials of 12 capsules 250 mg. EACH. Price Rs. 13/8/- Net.

## INDICATIONS

TYPHOID, PARA-TYPHOID, BRUCELLOSIS,  
BRONCHO-PULMONARY AFFECTIONS  
(NON-TYPICAL PRIMARY PNEUMONIAS),  
URINARY AFFECTIONS, GASTRO-ENTERITIS  
ETC. ETC.

*Manufactured by:*

**Marvin's Pharmaco Biological Institute, Italy.**

AGENTS:

**JUGGAT SINGH'S SON & BRO.,**

21 B, Keval Mahal Marine Drive,

**BOMBAY.**

*Stockists:*

1. KANPUR: NEW INDIA MEDICAL STORES
2. NAGPUR: RAJKUMAR AGENCIES.
3. CALCUTTA: BHOPPE & Co., 24/1, S. N. Pandit Road.

LATEST PRODUCTS MANUFACTURED  
BY

**HELLIGE Inc. U.S.A.**

Precise Portable Versatile Instruments

**CLINICOL** PHOTOELECTRIC COLORIMETER  
PRECALIBRATED FOR MORE THAN  
EIGHTY BIOCHEMICAL TESTS.

**CHROMATRON** PHOTOELECTRIC COLORIMETER  
AND TURBIDIMETER

Indispensable for Chemical Analysis, Process Control  
and Product Grading based on the measurement of  
colour or turbidity of a liquid.

*Please write to:*

**GORDHANDAS DESAI & COMPANY**

**305, Hornby Road,  
BOMBAY.**

**58-B, CHOWRINGHEE,  
CALCUTTA-16.**

**22, LINGHY CHETTY ST.,  
G. T., MADRAS.**



**Thrombophlebitis**

**Leg ulcers**

**Inflammatory  
infiltrations**

**Thrombosis**



# **HIRUDOID**

An organic preparation  
in ointment form  
with an action analogous to  
leech therapy

# **HIRUDOID**

**constitutes the inauguration of a new active therapy because of its peculiar properties:**

- *Rapid alleviation of pain and reduction of the inflammation*
- *No control of clotting time or prothrombin level*
- *Highly economical use*
- *Simple administration*

#### **Composition:**

Substances extracted from animal organs, anticoagulant and hyperaemic in their effect, akin in their anti-thrombin action to the body's own heparin, which are absorbed by the skin, in a particularly suitable cream base

#### **Indications:**

**Localized inflammatory processes, such as**

- *Inflammatory infiltrations*
- *Thrombophlebitis*
- *Inflammation of varices*
- *Abscesses, furuncles*
- *Leg ulcers*
- *Panaricia*

**Treatment of thromboses adjacent to the surface  
Haematoma**

#### **Packing and Application:**

Single tube of cream containing approx. 12 g. Single tube of cream containing approx. 36 g. Hospital packing containing approx. 144 g.

*The ointment is made to enter into the skin by slight friction.*

**LUITPOLD - WERK MUNICH**

Samples and literature available on request

**NEO-Pharma, Limited, 1/110 Haines Road, Worli, BOMBAY 18**

#### **NEW ADDRESS:-**

Kasturi Buildings, Jamshejji Tata Road, Churchgate Reclamation,  
BOMBAY 1.

To Protect Children from many diseases  
and to keep them

**HAPPY & HEALTHY**

Give

**PRAVIN** GRIPE SYRUP  
A TONIC FOR CHILDREN

Formula No. CDL 283

MANUFACTURED BY  
*Pravin Laboratory, BOMBAY 7*



**RYBARVIN INHALANT**

for **ASTHMA**

IT affords the most  
speedy relief yet known to Medical Science.

Manufactured in England

BY RYBAR LABORATORIES LTD.

ASK FOR LITERATURE FROM

Sole Stockists for Delhi & East Punjab  
**BHAGWAN DAS & CO.** Chandni Chowk Delhi.

Sole Stockists for South India  
**SPENCER & CO. LTD.** Mount Road, Madras-2

Sole Stockists for Bombay  
**JUGGAT SINGH'S SON & BRO.**, 21-B Keval Mahal, Marine Drive, Bombay.

Sole Distributors for India

**H. MUKERJI & BANERJEE SURGICAL LTD.**  
39/1 COLLEGE STREET, CAL-12 and at ASUTOSH BLDG., CAL. UNIVERSITY



**Study of Ayurveda made easy**

Especially for the students of western medicine by the book 'AYURVEDIC INTERPRETATION OF MEDICINE' written with scientific and enlightened outlook by Dharm Dutt Ex-Principal, Gurukul Ayurvedic College. Price Rs. 3/8/-

CAN BE HAD FROM:

**KAMLA PHARMACY,**  
Kankhal, (Hardwar).

**Just Out****Hindi Edition**

OF

**First Aid in Accidents**

By Dr. U. RAMA RAU

Price Rs. 2-0-0

SRI KRISHNAN BROS.,  
323-24, Thambu Chetty St., Madras-1.

**THE EMERGENCY BAG (At Concession Rates)**

Comp. Bag with 26 articles  
Rs. 28-0. Empty Bag size  
12" x 7" Rs. 16-0. 15" x 8"  
Rs. 22-0. Dressing Case  
Rs. 15-0. Diagnostic Set in  
Case Rs. 20-0. Medical  
Magnetic Machine Rs 25 0  
Pentorch Comp Rs 3-8.

Write for Catalogue to:-

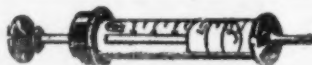
Dr. Jaswant Singh & Co., Premnagar Dehra Dun (U.P.)

**HEALTH**

A Monthly Journal Devoted to Healthful Living

Founded by the late Dr. U. RAMA RAU  
in 1923

323-24, Thambu Chetty St., Madras-1.

**SYRINGE REPAIRS**

We are *specialists* over years of  
experience—*Satisfaction guaranteed*  
at *reduced prices*.

Dealers in

*Surgical Sundries & Instruments.*

**SHREE DURGA SURGICAL SUPPLIERS,**

152-B, HARRISON ROAD, CALCUTTA-7.

**Entero-Guine**

Combination of —  
*Entero-Guine*  
and  
*Per-Entero-Guine*

To provide mutually enhanced  
Therapeutic effect for the  
treatment of —

Amoebic Dysentery  
Bacillary Dysentery  
Gastroenteritis  
Enterocolitis  
Summer Diarrhoea &  
Fermentative Dyspepsia  
Etc.

**ALLIANCE TRADING CORPORATION**  
CALCUTTA

**Consolidated Chemicals Ltd.**

WREXHAM, Great Britain.

We have great pleasure to  
announce that Messrs.  
**STREAMLINE STORES**  
have been appointed as our  
Sole agent for India, for  
our "DELCON BRAND"  
Pharmaceutical Products.

*Inquiries may be referred to :*

**STREAMLINE STORES,**

142, Bazargate Street,  
Fort, BOMBAY.

# BRONKOL

A Dependable Remedy  
for Asthma

&

Chronic Bronchitis

Relieves promptly & regular use ensures permanent relief in most cases.

**Compositions:**—Ephedra, Saussurea Lappa (Kut), Theobromine, Atropine, Phenolphthalein, Phenacetine, & Calcium

## Tropical Chemical Works

25, Indra Biswas Road,  
CALCUTTA 37

Phone: B. B. 1606.

# 'BOROSIL'

NEUTRAL GLASSWARE

FOR

LABORATORIES, HOSPITALS,  
PHARMACEUTICAL CONCERNS  
Etc.

### MAIN PRODUCTS:

TABLE BLOWN GLASSWARE,  
GRADUATED GLASSWARE &  
MOULDED GLASSWARE.

INDUSTRIAL & ENGINEERING  
APPARATUS CO. LTD.,

Chotani Estates, Proctor Rd.,

Grant Road,

BOMBAY-7.



**LUCONA**  
EFFECTIVE REMEDY FOR LEUCORRHOEA

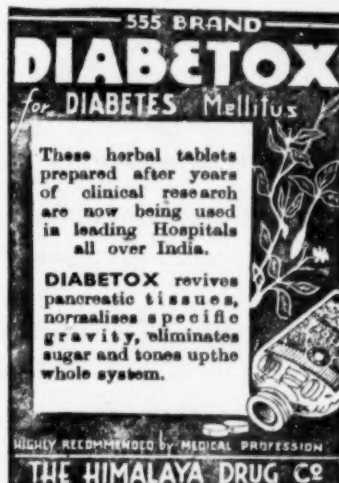
CONTAINS:  
1. ASOKA  
2. RED OXIDE OF MERCURY  
3. RAJITABHASMA ETC.

AN IDEAL CURE FOR SPERMATORRHOEA & SEMINAL WEAKNESS

**SUKRA SANJEEVI**

CONTAINS:  
1. ASWAGANDHA  
2. RAJITABHASMA  
3. KOKILAKSHA  
4. KAPIKACHU  
5. SALAMISRI

FOR DETAILED LITERATURE PLEASE WRITE TO:  
**MODEL PHARMACY**  
P.B. NO. 105 VIJAYAWADA



555 BRAND  
**DIABETOX**  
for DIABETES Mellitus

These herbal tablets prepared after years of clinical research are now being used in leading Hospitals all over India.

**DIABETOX** revives pancreatic tissues, normalises specific gravity, eliminates sugar and tones up the whole system.

HIGHLY RECOMMENDED BY MEDICAL PROFESSION  
**THE HIMALAYA DRUG CO**

251, Hornby Road, BOMBAY-1.  
Sold by leading Chemists.

Literature, Clinical Reports & Samples on request.

## Some Notable Specialities

### ELIXIR MELGADINE

Tonic & Recuperative food adjunct in Convalescence & Wasting Diseases.

### CIVALBROM

A sedative.

**HEPOBYLE** with Methionine and Choline  
A tried Remedy for Sluggish Liver.

### LEUTOVARIN

For irregular Menstrual functions.

### PULMOSIN

For Respiratory Catarrh & Whooping Cough.

**DRAGON CHEMICAL WORKS**  
(Research) Ltd.

204/1, RUSSA ROAD, CALCUTTA-33.

## ABCOPLEX

Standardised Vitamin B-Complex including B<sub>12</sub>

### COMPOSED OF

Vitamin B<sub>1</sub>, Vitamin B<sub>2</sub>, Vitamin B<sub>6</sub>, Vitamin B<sub>12</sub>, Nicotinamide, Cal. Pantothenate, Amino Acids, Folic Acid, Choline Chloride & Sodium Glycerophosphate, in a base rich in natural vitamin B-Complex.

### INDICATED IN

Beri-Beri, Neuritis, Pellagra, Sprue, Colitis and in other Vitamin B-Complex deficiencies.

For Further particulars, please write to:-

**ABCO'S PHARMACEUTICAL WORKS (India) Ltd.**

Phone: B. N. 159, CALCUTTA-11. Gram: ABCOHOUSE

*To fight Asthama*

## EPHESOL

*is the weapon*

a scientifically adjusted quantity of drugs acting as expectorant, antispasmodic Cardio. Tonic. Bronchi dilator and stimulant of the pulmonary circulation.

*Literature and sample on demand.*

**G. PRAXEN & CO., LTD.**

LUCKNOW, (U.P.)

Manufacturers of Standard Pharmaceuticals and Specialities.

## HEMASTO-HEPATIN

Made in France

Vit. B. Complex, Hemoglobin with Liver and Stomach Extract.

A most Powerful and Energetic, Hematopoietic and General tonic.

HEMASTO-HEPATIN is of immense value in all forms of Anæmia, Pernicious Anæmia, Chlorosis Convalescence, Hepatic insufficiency and digestive disturbances.

*Literature on application to Medical Profession.*

SOLE IMPORTERS.

**INDOCO REMEDIES, LIMITED.**

457, S. Vallabhbhai Patel Road,  
BOMBAY-4.

## MONO METHIOCHOL

*Indicated in:*

**Prophylaxis and treatment of fatty degeneration and cirrhosis of the liver.**

**Each oz. contains:**

Methionine	...	750 mg.
Choline	...	2000 mg.
Inositol	...	250 mg.
Vitamin B <sub>1</sub>	...	5 mg.
Vitamin B <sub>12</sub>	...	5 mg.

## LIVAPLEX

(for injection)

**Each c.c. contains:**

Vitamin B <sub>1</sub>	...	25 mg.
Vitamin B <sub>2</sub>	...	0.25 mg.
Vitamin B <sub>12</sub>	...	10 mg.
Nicotinamide	...	10 mg.
Cal. Pantothenate	...	3 mg.
Liver Extract	...	25 mg.

*Indicated in:*

**Pernicious anaemia & other megalocytic anaemias, anaemia of pregnancy, sprue.**

## MANDOSS DRUGS LTD.

6, Commercial Building, CALCUTTA.

## C. A. F.

(L. Chloroamphenicol)

**Packing:** Vials of 12 Capsules 250 mg. each.  
(Antibiotic for Typhoid Fever and a wide range of antibacterial infections)

**For Profession Rs. 13-8-0 per vial**

## ISONICAZIDE

(Latest T.B. Drug)

100 Tab x 50 mg.

**For Profession Rs. 2-12-0 per bottle**

## DIHYDROSTREPTOMYCIN

SCHENLY (U.S.A.)

**1 gram 20 cc. vial Rs. 1-15-0 each**

**PRICE LIST OF OTHER DRUGS  
AND MEDICINES ON REQUEST**

## Amarchand Sobachand

Distributors and Importers,

MADRAS-3.

Telegrams: ZAMA

Phone: 2182

## Cholera Meets Its Conqueror

**CHOLRAGON**, a recent preparation for the treatment of Cholera has been tried during the last few years in many hundreds of Cholera cases with complete success. It is invaluable also for Diarrhoea. The following are among our numerous testimonials.

1. 6, Wood Street, Calcutta. 3-6-'51.  
I had a bad case of Cholera and used your Cholragon. I must congratulate you on its efficacy. From the very first dose there was improvement in that the vomiting stopped. The purging continued till after the second dose and this also stopped. There is big scope for your remedy and you may use this letter to make your preparation more known.

Dr. D. C. SEALY, I.M.D. (Retd.).

L.R.F.F. & S. (GLASGOW).

2. Farrukhnagar (Meerut), 7-6-'52.  
I have tried your Cholragon with grand success and I take this opportunity of congratulating you for such a marvellous product. It magically stops purging and vomiting.

Dr. H. B. K. ARORA, B.A., D.U.M.

**AGENTS AND STOCKISTS WANTED.**

**Apply DEPT. 'A'. PIXIE PRODUCTS,**

1, Ripon Street, CALCUTTA.

# ASTHMA

**THE OROCRINE LINE OF  
TREATMENT**

By the makers of

# SINDOL

(ANALGESIC)

## ASEPTICUS COMPANY

(Estd. 1925)

G.P.O. 560, BOMBAY-1 (A)

# Clinestrol



Clinestrol (stilboestrol) has proved to be remarkably effective in amenorrhœa, dysmenorrhœa and climacteric disturbances. There is evidence that this synthetic œstrogen can be used successfully in the treatment of threatened abortion and habitual premature labour. The dosage required is large, but pregnant women tolerate the drug very well.

GLAXO

## CLINESTROL

(STILBOESTROL)

**TABLETS:** 0.5 mg., 1 mg. and 5 mg. In bottles of 25, 100 and 500.

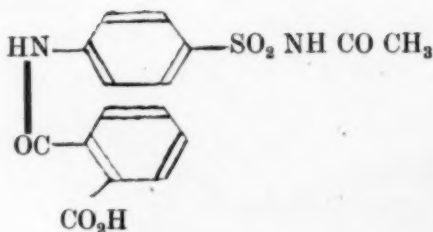
**AMPOULES:** 1 mg. and 5 mg. In boxes of 6 x 1 cc.

GLAXO LABORATORIES (INDIA) LTD., BOMBAY, CALCUTTA, MADRAS



INTRODUCING

# SULFACYL



For cure and control of Typhoid group of fevers,  
Cholera, Bacillary dysentery, Ulcerative colitis etc.

*Details on request from:*

**G. D. A. CHEMICALS LTD.**

MANUFACTURERS OF PAMICYL-PAS FOR THE FIRST TIME IN INDIA

44, BADRIDAS TEMPLE ST.,

CALCUTTA-4.

For iodine therapy  
even in sensitive patients: -

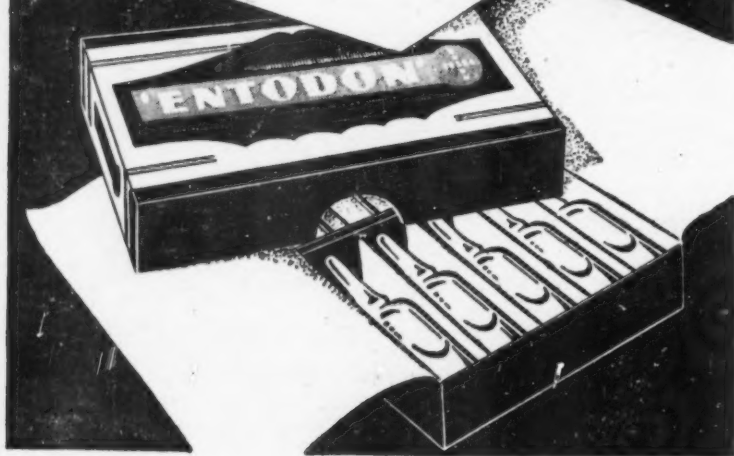
# 'ENTODON'

The organic iodine preparation for painless  
subcutaneous, intramuscular, and intravenous  
injection.

A rapid and lasting iodine effect in lues,  
hypertonia, arteriosclerosis, angina pec-  
toris, aortalgia, bronchial asthma, chronic  
bronchitis, etc.



„Bayer“ Leverkusen, Germany



*Sole Importers in India:*

**CHOWGULE & CO., (HIND) LTD.,**

PHARMACEUTICAL DEPARTMENT,

Lentin Chambers, Dalal Street, Post Box 1478, Bombay-1.

Branches: Post Box 8943, Calcutta 13, Post Box 1743, Madras-1.



# STOP

CHINOIN

**TROPARIN**

stops spasms and brings prompt relief from pain.

Homatropine methylbromide/Novatropine 0.0015g.

and Papaverine hydrochloride 0.04g.

Presented in boxes of 6 x 1cc. ampoules,  
and phials of 20 x 0.4g. tablets.

Sole Representatives:

**EZRA BROTHERS**

Sir Phirozshah Mehta Road, Bombay. Telephone: 24786

T'phone : 2163

T'gram : 'ANTISEPTIC'

# "THE ANTISEPTIC"

A MONTHLY MEDICAL JOURNAL

Founded by the late Dr. U. Rama Rao in 1904

Editor : U. VASUDEVA RAO, M.B., B.S.

All literary communications should be addressed to the Editor and business communications to the Manager.

323-24, Thambu Chetty St., Post Box No. 166, Madras-1

London : 24/27, High Holborn W.C.1.

Calcutta : 31, Beek Bagan Row

Bombay : 10, Hornil Street

New Delhi : G.P.O. Box No. 677

## EDITORIAL.

Contributions are invited from the medical profession in India and abroad in the form of original articles, clinical lectures, medical society addresses, reports of interesting cases, condensed extracts of useful articles appearing in other journals with or without comment, practical hints & recipes, experiences with new preparations and inventions, vital statistics, therapeutic notes, communications etc. Contributions should ordinarily not exceed 8 pages of the journal excluding space occupied by illustrations if any.

**Exclusive Publication:**—Contributions are accepted on the distinct understanding that they are sent solely to the "Antiseptic."

Editors accept no responsibility for the views and statements in the contributed articles. They, however, reserve the right to accept, reduce, alter or reject any article without assigning any reason.

Letters to the Editors should be written on separate paper from the contribution.

**Anonymous Contributions** or letters whether for publication, or information or by way of criticism are consigned to the waste paper basket.

All articles intended for insertion in any particular issue should reach the editors at least 30 days prior to the scheduled date of publication.

**Copyright:**—The Publishers reserve the copyright of everything published in the journal. Reproduction in respect of medical journals is permitted, if proper credit is given, but not for commercial purposes.

**Manuscripts** should be concise, type-written, double spaced or legibly written on thick paper, on one side only with sufficient margin on either side, and original copy submitted. The author should keep a copy with him. Sheets should be numbered and name of the author should appear on each sheet and his address somewhere on his MS. Manuscripts should be carefully revised and should not be rolled. The editors cannot promise to return unused MS. but will try to do so in every instance. Used MS. are not returned.

**Illustrations:**—The preparation of all blocks from photographs or drawings is done free. But satisfactory photos or drawings should be supplied. Photographs should be clear and distinct and preferably black and on glazed paper, drawings should be in black (never in blue) on white paper. On the back of each photograph or drawing its number, the author's name, an abbreviated title of the article and an indication of the top of the picture should be written in pencil. Descriptions of illustrations should be type-written at the end of the MS. in a single list, with numbers corresponding to those on the photographs or drawings. The Editors reserve the right to return the photos or drawings which are not satisfactory or unnecessary. Contributors are respectfully requested to limit illustrations to such as are absolutely necessary. Used photographs and drawings are returned after the article is published, if requested.

**Reprints of Articles and Case Notes to Authors:**—25 Copies are supplied free. Larger numbers may be obtained on written application at the time of sending the article; then the cost of paper alone will be charged for the extra copies.

**Advice to Correspondents:**—The Editors cannot advise correspondents with regard to prescription, diagnosis etc., nor can they recommend individual practitioners by name, as any such action would constitute a breach of professional etiquette.

**Book-Reviews**—Publishers are requested to send advance copies of new books of importance whenever possible. They will be reviewed as early as is possible. **News:**—Readers are requested to send in items of news, also marked copies of newspapers containing matters of interest to the Medical Profession.

## BUSINESS.

**Date of Publication** of the "Antiseptic" is 15th of every month.

**Subscriptions:**—The annual subscription for India and Ceylon is Rs. 7-8-0, Burma and foreign sh. 15 post paid. There is no concession of any kind. Half yearly subscriptions are not accepted. Copies not paid for in advance will be charged at the retail rate. Retail price per copy of the Current and the previous Calendar year is 1-0-0 for an ordinary issue; and Rs. 2-0-0 for a special issue, post-paid.

**Back Numbers** which are available are charged 4 As. extra per copy for each year preceding the last Calendar year.

**Specimen Copy** of current issue can be had at the retail rate and if called immediately from that issue, this amount can be deducted from the subscription.

**New Volume** begins with the January issue. Subscription may, however, begin from any period for one year or more. It may be dated as far back as the beginning of the Current volume, provided copies are available.

**Remittances** should be made to the Manager either by Money Order, Postal Order, Draft, Cheque, or Currency notes. The last should be sent by Registered Post only. It is cheapest to send a Money Order. All cheques on Banks other than in the City of Madras, should include a collection fee of 4 As. Copies sent by V.P. will be charged 7 As. extra. Receipts will be granted for all payments except for M. O. and V.P. In the latter cases, receipt will be sent only when asked for.

**Caution:**—No money should be paid to an agent unless he produces a letter of authority for making collections.

**Renewal:**—Unless notice is given to remove the subscriber's name from the list, it will be carried on for a further term and the first copy, after the expiry of the previous subscription, will be sent by V.P. for the annual subscription, plus the V.P. charges. To avoid this remittance or notice for discontinuation should reach ten days prior to the date of publication.

**Change of Address** should be intimated before the 10th i.e. five days prior to the date of publication. While doing so or referring to the subscription, the subscriber is requested to quote the number given above his name in the wrapper and also give his old as well as new addresses.

**Temporary Change:**—When there is a temporary change in address or when it is not possible to intimate it before the 10th, arrangement should be made with the local post-office for redirection of the copy to the proper address.

**Non-receipt of Copies** should be intimated before the end of the month.

## ADVERTISEMENTS.

Rates for Contract Advertisements : From 1-4-'53.

One page : Rs. 200 ; Half page Rs. 105. Quarter page Rs. 55 ; per insertion.

Special pages and pages facing reading matters when available, will be charged 50 per cent extra.

Series discount of 5 per cent and 10 per cent will be given on contracts for six and twelve insertions in a year. A rebate of 5 per cent is allowed for prepayment of 6 or 12 months' advertisement charges.

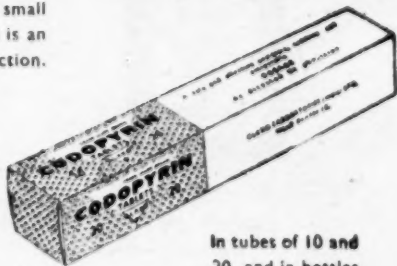
First advertising forms go to Press 30 days prior to the date of issue. Copy must be sent in time for setting up advertisements and correcting proof.

## FOR RELIEF OF PAIN



Codopyrin, a safe and potent analgesic, combines acetylsalicylic acid, phenacetin and codeine in small doses which together reinforce each other and is an excellent example of powerful synergistic action. Codopyrin may be given without risks of ill effects over long periods. It quickly relieves moderately severe pains of neuritis, headache, rheumatism, influenza and dysmenorrhea. In addition, being an antipyretic as well as a sedative, it rapidly brings down the temperature.

*Tablets*



In tubes of 10 and 20, and in bottles of 80 and 300.

GLAXO LABORATORIES (INDIA) LTD.  
BOMBAY • CALCUTTA • MADRAS





## A STRAIN ON NUTRITION

The demands of pregnancy often result in impairment of liver function. 'Meonine' supplies essential dl-methionine, one of the amino acids requisite to normal liver function and, during pregnancy, as a prophylactic against eclampsia.

Four tablets of easily tolerated 'Meonine' each day is the usual dose recommended for expectant mothers to remedy the strain on nutrition.



Wyeth

# 'MEONINE'

TRADE

MARK

dl-methionine tablets

non-toxic

JOHN WYETH & BROTHER LIMITED, LONDON

Distributors in India and Burma: GEOFFREY MANNERS & COMPANY, LIMITED

**CZECHOSLOVAK****MEDICAMENTS****PELENTAN**

*Tablets warranting maximum efficiency and security in the dicumarol anticoagulation therapy of thrombosis, organic ailments of blood vessels, sclerosis multiplex and the like*

**MECODIN**

*Tablets and injections—synthetic analgeticum and spasmodicum (Post-operative pains, pains in primary cancer and metastasis neuritis, cholecystitis)*

**PSYCHOTON**

*Tablets: stimulant of the central nervous system: Narcoleptic states, psychoneurosis, fatigue, apathy*

**CLAVITITRAT**

*Drops—injections: uterotonicum*

**FLUOCID**

*A reliable preparation in the trichomonas-flux therapy*

**CHEMAPOL LTD**

Company for Import and Export of Chemical Products and Raw Materials, Ltd.,  
**PANSA 9, PRAHA II, CZECHOSLOVAKIA.**

*Representatives:—Ezra Brothers, Mustafa Building, Sir Phirozshah Mehta Road, Fort, Bombay*

For the common cold  
and coughs of all kinds

# **Cosome**

**(Ephetonin Cough Syrup)**

decongests the inflamed bronchial mucous membranes, liquefies the thickened sputum and makes expectoration more easy and painless. It relieves troublesome cough irritation.

Cosome is excellently tolerated  
Cosome has a pleasant taste  
Cosome is economical to use

**Packing:**

Bottles containing approx. 170 gm.



**CHEMICAL WORKS • DARMSTADT  
GERMANY**

*Sole Agents:*

**GAFCO LIMITED-E. MERCK DEPT.**  
BOMBAY: P. O. BAG 1652  
CALCUTTA: P. O. BOX 2253  
MADRAS: P. O. BOX 1281



For vitamin therapy with massive doses

## **Betabion** (thiamine)

Vitamin B<sub>1</sub>

Tablets of 50 mg.

Ampoules of 25 mg. in 1 c.c.

Ampoules of 100 mg. in 2 c.c.

Rubber-capped phials of 10 c.c.

100 mg. in 1 c.c.

## **Cebion** (l-ascorbic acid)

Vitamin C

Tablets of 200 mg.

Tablets of 500 mg.

Ampoules of 500 mg. in 5 c.c.

Ampoules of 500 mg. in 1 c.c.

Rubber-capped phials of 10 c.c.

500 mg. in 1 c.c.



CHEMICAL WORKS • DARMSTADT  
GERMANY

*Sole Agents:*

CAPCO LIMITED-E. MERCK DEPT.

BOMBAY: P. O. BAG 1652

CALCUTTA: P. O. BOX 2263

MADRAS: P. O. BOX 1281



The MARK For a Person Who Knows What  
**"GUARANTEE"**  
 MEANS



S. p. A. MILAN (Italy)

PRODUCERS OF WORLD-FAMOUS  
 PHARMACEUTICAL REMEDIES  
 SUCH AS



**SYNTHOMYCETINE**—Lepetit—(Chloramphenicol U.S.P. XIV)

The antibiotic of choice, with the widest range of antibacterial action—indispensable in Typhoid, Whooping Cough, Amoebiasis, Dysentery, Tropical Ulcer, Undulant Fever, Yaws etc.—“Guarantees” rapid, uneventful recovery.



**NICOTIBINE**—Lepetit—(Isonicotinic Acid Hydrazide)

For successful chemotherapy of T.B. bringing hope to millions of sufferers in this country—“Guarantees” Purity. Reliability. Excellence.



**VIRUBRA**—Lepetit + FOLIC ACID

Combination of the two Vitamins synergic to each other (B<sub>12</sub> and Folic Acid) essential anti-anemic factors for stimulating hematopoiesis and formation of purines. “Guarantees” quick hematonic response—

AND  
 INNUMERABLE OTHER RENOWNED SPECIALITIES.  
 SOLE AGENTS:-

**RANBAXY & CO. LTD.**

Head Office: CONNAUGHT CIRCUS, NEW DELHI

BRANCHES:

16-Marina Arcade, P.O. Box No. 104.

3rd Floor, Mustafa Building, Sir P. B. Mehta Road, BOMBAY-I.

P. 36, Royal Exchange Place Extension,

Ebrahim Buildings, 8, Errabalu Chetty St., CALCUTTA-I.

NEW DELHI-I.

BOMBAY-I.

CALCUTTA-I.

G. T. MADRAS-I.



Grams: ALLWIDE.

## RAJNIKANT &amp; BROS.

ESTD. 1942.

Please quote our  
Ref. No. F-A 53.P. O. Box No. 2053,  
Princess Street,  
BOMBAY-2Terms: V.P.P. through Bank  
25% advance for New Customers.

(Feb. '53)

All Prices are nett Ex-our godown. Postage, Packing etc., will be charged.  
FREE: On orders upto Rs. 100/- or more one STETHESCOPE POUCH PLASTIC Free.  
N.B.—Please ask for Our latest Price List for all kinds of Medicines & Surgical etc.

Isonicotinic Acid Hydrazide:—	ICF Folic Acid comp 10cc	4-12	Sandoz Cal Gluco c Vit 0
100 tabs. bot.	5-12 Milk Plain 5ccx1-0	15-12	5x10cc 6-6; 10x5cc 10-12
Boot's 50mg. 1000 tab. 40-0 bot.	Milk with Iodine 100x5cc	16-0	Sandoz Cal Gluco 10x5x10cc 5-4
Isonicotinic Acid Hydrazide	Aletaris Eng 2-8;	Rio 13-8	50x5cc 40-0; 20x10cc 20-0 box
Italy	50 2-12 Resochin tab 10 1-12; 100 14-12		Entreviform 20's 2-13; 100's 11-10
Dumex Isonex 25's 2-4; 100's 6-5	Redoxon 6x2cc 5-0; 50x2cc 37-0		Bandages 6y ds. x 3" JJ 4-8 doz
Squibb Hydrazide 25's 2-7; 100 7-4	3x5cc 4-4; 25x5cc 28-0		Hot water Bag 3-8; lee Bag 1-12
Chloromycetin 12 cap	Eng. H. T. Emetin 1gr or 1gr	3-12	Hypo Syringe (SN Re. 1 more)
Chloromycetin liq. 60 cc 14-0	Sulpha tab 1000	5-12	A.G. Jap 2 5 10 20 30cc.
Chloramphenicol Italy 12 cap 14-14	nilamide Eng 11-0	5-12	0-10 0-14 1-2 2-0 3-4
Auremycin 8 Cap	guinidine 25-0	13-0	Italy 1-4 2-0 2-12 4-0 6-0
Terramycin 8 cap 17-6; 16 33-8	mezathine (100 6-14)	30-8	Germ 1-0 1-4 1-10 3-0 4-12
Merck Strp. with Penicillin 2-10	diazine USA 78-0; MB 42-0		Record Ger 3-8 5-8 6-8 9-8 13-8
Pfizer " " " 4-0	Beets 41-8 500; BDH 39-0		Italy 3-8 4-12 6-12 8-8 12-0
Squibba " " " 3-2	Sulphatrone (100 9-12)	41-4	Boston 5-0 6-0 7-0 10-8 14-8
P.D. Casque 3 Tab 0-12-0 pkt.	Sulphatriad MB (100 8-8)	42-0	B.D. Lock 8-0 12-8 13-4 17-0 23-8
Penicillin Cryst. G.	Sulphonamide pwd. 1 lb	8-0	Jap. 1-14 2-14 4-0 6-0 8-8
1 lac 2 lac 5 lac 10 lac	Cream 4 oz. Lilly 5-4 doz		Metal case Ind. 50cc 6-0
0-11 0-11 1-4 2-10 Merck	Gentian Violet Jelly 4 oz Lilly 4-8		Hypo Syringe 50cc S.N.
0-12 0-15 1-8 2-12 Squibb	Emetine amps BDH 1 grx12 7-8		Jap. 4-12; Italy 8-8; Germ. 8-0
— 0-11 1-3 2-2 Govt.	1 grx12 11-8; 1 grx25 13-8		B.D. Luer Lock 29-0; Jap 14-8
— 0-12 1-4 2-2 Glaxo	6x1gr 3-14; 100x1gr 52-0 box		Record Ger. 22-8; Italy 17-0
Strepto P.A.S. Lepetit 5-0	Endo 6x1 gr 3-0		Record Needle (Perfection 5-8)
Dihydro Strepto Igm Glaze 2-1	P.D. 1grx10cc 7-8; 1gr 11-4		Jap. Germ. Star. D.B. 14, 16
Merck 1-14; Pfizer 2-4; PD 2-6	Kuysa Ematine 1grx 25 x lee 9-0		1-12 1-14 4-0 4-8 4-12 ds
Procin Penicillin 20 lacs GI 5-2	1 grx 25 x lee 17-0		All Glass Needles Luer Mount
Ind. Govt. Dumex Pf. GI	B.W. 1gr 12xlee 8-10; 1gr 6xlee 8-4		Jap 2-4; Ger 3-0; DB 5-8; BD 10-8
4 lacs 1-6; 1-2-6 1-15 1-1	Cibazol 250's 13-6; 20's 1-12		F.L. Durex Pkt. 1-12 Tin 2-0 doz
P.A.S. Dumex 100grm 10-4; 1tl. 4-0	MB 760 27-0; MB 693 500's 41-4		Ear Metal Syringe 2 oz 5-8
100 tab Bayer 6-4; Italy 3-10	First Aid Box 11-8 [Amyl Nit cap 1-10		Waterbury Co 5-4 bot. [4oz 6-12
250 Italy 8-12 500 15-12	Vitamin B tab USA 500 1-8		Oil Chianapedium 1oz. oz. 5-8
P.A.C. tab 75 5-6; 250 15-0	Liver Ext 10cc 2 USP P.D. 3-13		Disp. Scale Nick 6-0; Brass 4-0
PASTab Calcium 100 3-10 250 8-8	5 USP P.D. 8-2		Irgapyrin 5 amp 5cc 8-12 box
Quinine Jap. 34 0; Java 52-8	Campelan 5x2cc 5-10 25x2cc 25-12		Gynomim tab 1-14 tube
Holland 48-8; Howds 56-8	Cal. Glu. 10% 10 x 10 cc 12-8		Acridavin 25grm 1-12; 5grm 0-9
oz. Ind 3-4; Howds 4-4	Glucose Sol. 25% x 25cc 50amp 10-0		Mepacrine Eng. 10-12; ICI 12-8
Bihydro Ampa 100x10grx2cc	Thilo Germ 50 amp 19-8		F.L. Washable 0-5 each
Ind. B.D.H. Evans B.W. P.D.	Berin 25mgx10cc 2-0; 50mg 3-2		" Orocoodyle 0-10 "
16-8 22-0 23-0 33-0 36-6	Calci Ostelia 15cc 3-3 [100mg 4-6		Silvertex 2-4 doz
10-12 14-8 15-0 100x1grx1 cc	NAB 15's 0-10; 3 0-11; 45 0-13;		Rubber Gloves 7 1/2 or 8 1/0 pair
Euquinine Howd. 4-12; Java 4-8	Nicotinic Acid 500 2-8 [6 0-15		Riboflavin Roches 250 tab. 1-4
Roche 6-12; Jap 3-4	Neosalvarsol 0 15 30 45 60grm		1 gm 50x2cc box 2-0
Q. Tab. 2grx100 2-8 5gr 4-12 How	(90gm 1-6) 0-14 0-15 1-1 1-3		Suture Needle Eng. 0-4 each
5gr 1400 How. 55-8	Acetelarsol Adult 6-6 Child 4-14		M&B 693 1 gm 6 amps box 3-0
Bihydro 2grx100 2-14; 5gr 7-4	Atebrin Bayar 15 0-10; 300 7-4		Pracquine 500 tabs 1-0
Pamaquinine 500 tab Igm 1-4	PD Adrenalin in oil 3-6 [1000 13-8		Quinaerin 0-10gm 25
Oral Tablets 1000 1000	Distill Water 100x5cc 5-8		[amps 13-0
Aspirin tab Eng 5-8; Ind. 4-10	10cc 7-4; 2cc 4-0		0-30 gm 25 amps 22-8
Quinacrine MB 11-10; 5-14 500	Sil. Vit. Eng. 2-8; Protargol 1-12		Leucarsone 500 tabs 14-8
Ephedrin 1gr 1000 5-8 German	Ethyl Chl. 100grm 2-5		INJECTION ENG:—
Yeast Tab. Eng. 5gr 5-12; 7gr 7-0	Sedssaly 3-12 lb. Santenise dr 5-10		Camphor Ether e/oil 12xlee 1-4
Soda Mint 2-12; Ind. 2-0	Calomel 0-14; Chlorobutol 1-6		In oil 12xlee 1-4 box
Paludrin 1000x1 gm.	Menthol 3-2; Gentian Violet 1-4		Mercury Biniodide 12xlee 0-12
Hct. Ergot. 4 oz. 6-4; 1b 16-8	Thermameter Germ 0-15; Jap 0-11		Iodine Rubrum 12xlee 0-12
Haridon tab 10 1-8; 250 25-8	Zeal 2-12; USA 1-6; Eng 1-6		Sodi Glycero Phos. 12xlee 1-4
Potas Chloras 500 tabs 3-8	Hicks 4-0; Jap Flat 1-8		Methyl Arsanol 12xlee 0-12
Sulphamezathine 5cc 25amp 9-12	B.D. Stethoscope 23-8; Ger. 11 0		Strychnine Hydro 12xlee 1-4
Argrol Orig. 7-4; Geisacal Carb. 2-5	Plastic Tubing 1-6; Rubber 0-12 yd		Multivitamin 5 caps. 4-0
Multivitamin tab USA 1000 13-8	Erkameter 72-0; Aspirin 4-4 lb		Lilly Betalin Complex 10cc 5-12
ICF. Vit. B Complex 6x2cc 6-2	Detecto Weighing Machine 40-0		B.W. Fuetia Hydro 1gr. 12 tab 5-12
10cc 5-0; 1x25x1cc 12-8	Saline Appar. comp 300cc 8-0		Peacock Bromide 4-12 bot.
W. Liver Ext. 6x2cc 3-11	Wincarsis Large 9 12 [500cc 10-0		Wampole Phospholecithin 8-4
c C & B 100cc 4-6	Wall Thermameter Japan 2-8		
c Vit. B12 4-12			

# *The Nutritious Childrens Tonic*

**FERROMALT**—Liquid malt extract is used as the basis of this preparation and the extract chosen is the finest available, being rich in the B-complex vitamins, protein, mineral salts and diastase. To this are added Collosol Ferro-cuprum (colloidal iron and copper), vitamin D and concentrated orange juice.



# FERROMALT

IN 4 oz. AND 8 oz. BOTTLES

Made by THE CROOKES LABORATORIES LIMITED  
Makers of CROOKES HALIBUT OIL

BP-22



THE CROOKES LABORATORIES LIMITED (Incorporated in England)  
COURT HOUSE - CARNAC ROAD - BOMBAY 2

# KASABIN

*The Rational  
Cough Cure*

The palatable preparation containing  
Ephedrine Hydrochloride, Potassium  
Sulpho-guaiacolate, Ammonium  
Benzoate, Vasaka etc.

*It liquefies the tenacious mucus,  
makes expectoration easy and  
relieves respiratory spasms.*



**Bengal Chemical & Pharmaceutical Works Ltd.**

CALCUTTA

BOMBAY

KANPUR.

*Agents:—N. DASAI GOWNDER & Co., 41, Bunder Street, Madras.*

**PRESCRIBE**

**FOR DIGESTIVE DISORDERS**

**ELIXIR  
DIGENZYMES**

Palatable combination of  
Diastase, Pepsin and Papain



Available in four-ounce phials

**BENGAL CHEMICAL**  
CALCUTTA, BOMBAY, KANPUR.

*Agents:—N. DASAI GOWNDER & CO., 41, Bunder Street, Madras.*

WIDER SCOPE FOR  
**CHLOROMYCETIN**<sup>®</sup>  
 IN THE  
 TREATMENT OF TROPICAL DISEASES

CHLOROMYCETIN has one of the widest antibacterial spectra among established antibiotics and, in addition, is available in several forms. Its remarkable activity against a great number of pathogenic organisms—bacteria, rickettsiae and viruses, gives it a wide application in the field of tropical medicine.

*Chloromycetin has been used successfully in the treatment of*

AMOEBIASIS • BOUTONNEUSE FEVER • DYSENTERY • TRACHOMA • TROPICAL ULCER • TULAREMIA  
 TYPHOID AND PARATYPHOID • TYPHUS AND SCRUB TYPHUS • UNDULANT FEVER  
 VIRAL HEPATITIS • YAWS

Supplied in vials of 12 kapseals of 250 mg.

FOR CHILDREN

**PÆDIATRIC Chloromycetin PALMITATE**

A pleasant-tasting suspension of a bitterless derivative of the antibiotic for administration to children. One teaspoonful (4 c.c.)<sup>®</sup> is equivalent to 125 mgm. Chloromycetin. Bottles of 60 c.c.

FOR TOPICAL USE

**Chloromycetin Cream**

A cream indicated in the treatment of pyodermas, folliculitis and dermatoses of infective origin. Also effective as a routine minor wound dressing. Tubes of 1 oz.

FOR OPHTHALMIC USE

**Chloromycetin Ophthalmic**

A buffered, stable ophthalmic solution indicated in the treatment of bacterial and viral conjunctivitis, trachoma, keratitis and herpes zoster ophthalmicus. In vials of 15 c.c. capacity.

**Chloromycetin Ophthalmic Ointment**

A petrolatum-base oculentum of 1% Chloromycetin, for the topical treatment of conjunctivitis and other eye infections.

Tubes of ½ oz.



**PARKE, DAVIS & COMPANY, LIMITED**

Inc. U.S.A.

\* Registered Trade Mark.

BOMBAY